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Department of Superintendence

FOURTH YEARBOOK

THE NATION AT WORK
on the
PUBLIC SCHOOL CURRICULUM

19385

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FOREWORD

EVERY SUPERINTENDENT of schools is faced with the problem of securing a suitable curriculum for his local school system. Curriculum making is the central problem of the teaching profession. All else that is done in a school system radiates from this difficult and complex problem or contributes to its solution.

For three years the Department of Superintendence has sought to stimulate and aid local interest and endeavor in curriculum revision. The 1924 Yearbook of the Department, *The Elementary School Curriculum,* through its statement of general educational aims and objectives, its survey of current curriculum practice, and its proposed machinery for cooperative effort in curriculum revision in a local community, laid the basis for local programs of professional study relating to the curriculum. The 1925 Yearbook, *Research in Constructing the Elementary School Curriculum,* prepared through the cooperation of seventy-five curriculum specialists, brought together in one volume an analysis of outstanding research studies in each of the subjects of the elementary school. The 1925 Yearbook was one of the greatest cooperative pieces of research ever accomplished. The contents of this volume:

1. Made it clear that curriculum research has advanced to the place where its results cannot be ignored by those who would draft a truly modern course of study.
2. Pointed out problems relating to each elementary school subject on which further scientific evidence is needed.

The Cooperative Plan of Curriculum Revision was proposed at the Cincinnati meeting of the Department in February, 1925. Its purpose was: (1) to meet the need for testing out the research findings presented in the Third Yearbook, (2) to stimulate further scientific study, and (3) to bring together for their mutual aid school systems actively interested in curriculum building. The Cooperative Plan has developed to the point where three hundred school systems, twelve national subject committees, and a General Coordinating Committee are all working under the Commission on the Curriculum.

The 1926 Yearbook, *The Nation at Work on the Public School Curriculum,* which attempts to picture some of the most forward-looking work being done in the field of curriculum building, is a product of the Cooperative Plan. It only partially represents the large amount of correspondence and interchange of ideas which this Plan is making possible. Tremendous mines of energy and ideas among the teaching corps have been brought to light through the preparation of local courses of study. The Cooperative Plan offers opportunity to unite the best thinking of each individual school system.

The Department of Superintendence with the aid of the Research Division of the National Education Association acts as a clearing-house for the cooperating school systems and for the thirteen national committees.

Parts I and III of this Yearbook have been prepared by these committees; Part II, by the Research Division. The wealth of curriculum material developing in many local school systems made it possible for the committees, made up for the most part of superintendents of schools, to select outstanding material and to submit reports that are rich in suggestions and information. These reports were prepared under the limitation of time and the pressure of work to which all school executives are subject. Practically every committee held one or more meetings on its own time and at its own expense, since funds were not available for traveling expenses. The members of the various committees pooled the ideas developed in each of their local school systems. Hence, the best thought of hundreds of teachers, principals, supervisors, and superintendents has been contributed directly or indirectly to the various chapters of this Yearbook. It is rightly named: *The Nation at Work on the Public School Curriculum.*

This volume does not present a national course of study. Instead it brings together some of the best of the practical material which is evolving from the Cooperative Plan. It is the accepted policy of the Commission on the Curriculum that none of its work should be presented with finality. The issuance of final statements is undesirable from two points of view:

1. Educational research is too young to allow final words at this time to be issued on any subject.
2. The public school curriculum will continue to change as long as civilization advances.

The 1926 Yearbook suggests problems for further research and experimentation. It makes available for local course of study committees suggestive material for curriculum construction which can be adapted and utilized in local programs by communities of varying size.

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PART I

Facing the Problem of Curriculum Revision

Report of General Coordinating Committee

CHAPTER I

Fundamental Considerations in Curriculum Building

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Section I

WHY THE *Department of Superintendence takes up the problem.* It would be hard to find any community which has not at one time or another undertaken a revision of its school procedure. It has been done in spots. A new superintendent, dissatisfied, secures a revision of the entire course of study in his locality. Or, a nation-wide movement for better spelling, or arithmetic, or the introduction of a new subject produces extensive changes in the course. A feeling that education is not a local matter but that there are national ideals to be worked for is evident in every convention of school executives. Superintendents are not satisfied with mere imitation of the course of some other locality. A statement of broader aims is desired. To formulate it the Department of Superintendence established its Commission on the Curriculum.

What are the proper American aims?—We inherited the educational ideas of the old world. The founders of the Republic planned a nation in accordance with definite purposes, to achieve which they framed the Constitution. Officially they promulgated these purposes in the preamble: A more perfect union, justice, domestic tranquillity, the common defense, general welfare, preservation of the blessings of liberty. They held the conviction that these should be secured by public education. The states provided for schools at public expense, taxing all for the general welfare. In tax-supported schools these American aims must be paramount.

What is a curriculum?—A curriculum is the series of daily exercises working towards these ends. Its proximate aim is the delivery of the human output equipped for the general welfare and inspired with a desire to advance the common good.

What determines a curriculum—The school manager is confronted with a bewildering mass of activities and subjects, either found in courses of study or being pushed by advocates for recognition in the school. These claimants for attention must be weighed to determine the extent to which they can be used effectively to develop the type of citizenship proposed as the American ideal. The selection must be made with this purpose in view. Otherwise the old habit, of adopting something because an alleged good school system has it, will continue.

A curriculum itself will not fully realize the goal—The tendency to teach the subject for the subject's sake, to produce merely a body of knowledge or accomplishment without the desire of contributing to the general welfare is one of the greatest obstacles to efficient public-school service. So much attention has been devoted in the preparation of teachers to a mastery of method—that continuous purposive realization as to what the different subjects are for, and continued improvement in making teaching function in its larger purpose, is imperative.

Progress—A few schools are satisfied with civic instruction which only results in a knowledge of the machinery of our social organization. Were this situation prevalent the work of the schools would be merely to preserve things as they are; but the obligation upon public schools to improve conditions and theories is inescapable.

Adaptation—Although most schools are organized on the basis of giving instruction in groups, the fact that "the average child" is hard to find in actual life, confronts us with the necessity of adapting even the most perfect course of study to individual needs. If the course of study is to render the greatest benefit, it must provide minimum essentials for the less efficient members of each group and supplementary and valuable additions for the more efficient.

Research—To meet these individual differences the results of scientific educational research must be apprehended. By use of this knowledge the teacher may better know the individual child, his mental age, his peculiar abilities and shortcomings, how to classify him, what subject matter and what methods may be most effectively used.

Behavior—The public schools are concerned primarily with education for service. Service is a form of behavior. An individual may appreciate and enjoy his own accumulation of knowledge and skill; however, unless the school affects his behavior for the better so that his fellow-members of society are benefited, the spending of public funds in educating him cannot be justified. That curriculum is of most worth which secures the behavior most desirable for the general welfare. A person may sing a song, deliver an address, paint a picture, build a house, or do any of the thousands of things that enhance social values. We must train our output in habits of cooperation fitting the behavior to common undertakings for the community good, eliminating unnecessary waste due to friction and misunderstanding. Out of a thorough and critical study of forms of valuable behavior, the principles that determine the selection and organization of curriculum behavior should be derived. This is working for citizenship. The community has an organized cooperative life of its own, membership in which calls for knowledge and training in determining what the experiences of the child's life in school shall be. Such work in the school is "for a more perfect union." School exercises must also share in the progressive and beneficial work of the community itself.

Intelligence and ideals—It is not enough to sharpen the wits of public school children by the subjects and exercises adapted to that purpose. There must be a conscious intent to use these powers for the social, the common, advantage. To develop the skills appertaining to number, construction, and study is to stop half way. The accuracy and reliability, which good teaching of arithmetic secures, are of more importance than is indicated by their mere possession by an individual. "Your community is paying for your acquisition of accuracy and reliability in order that you may be of more service to all."

Health—Mastery of all the intellectual power obtainable from a public-school course of study—if the possessor has not the energy to use his power for the public benefit—misses the mark. Medical inspection, physical examination, and corrective hygiene are necessary in a public-school course, if it is to achieve its larger aims.

Results Relative—Perfection of the output will be commonly admitted as impossible. The test of the satisfactory school is this: Is the time, during which the contact of the school and the pupil is maintained, used to the best advantage for working toward the ideal perfection?

Summary—The working out of the details of an American curriculum include:

1. An aim to produce a human, social unit, trained in accordance with his capabilities to the nearest approach to complete social efficiency possible in the time allotted.
2. The qualities worked for are knowledge of and tendency toward cooperation (a more perfect union), justice, domestic tranquillity, common defense, general welfare, liberty, health and vigor.
3. Such exercises as best contribute to these aims will constitute the curriculum.
4. The currriculum must be adapted to the ages and capabilities of the children in accordance with the discoveries of educational research.
5. The curriculum must be administered for the larger ends and not for the mere covering of its contents.

Section II

Immediate and ultimate goals—The statement which precedes this section of the report describes the goal which it is believed should be set for public education in the United States. No attempt is made to indicate in that statement the steps which must be taken to reach this goal. It will be necessary, therefore, to consider the particular activities which are required in order to achieve the purposes for which the schools are organized. These particular activities will be determined in some measure by such conditions as the length of time that pupils are in school, the ability of communities to provide the material equipment and the teachers necessary for the conduct of a school system, and the capacity of pupils at different stages of their training. In other words, a definition of immediate goals must follow the statement of the broad general purposes of the schools, and this definition of immediate goals must be in terms which can be immediately translated by superintendents and teachers into programs of school work.

Distortion from concentration on particular subjects—In seeking to determine the immediate activities which are to engage the attention of pupils and teachers it has been customary for superintendents, supervisors, and committees on the curriculum to concentrate attention on particular subjects such as geography and arithmetic and to decide what selections from the bodies of knowledge making up these subjects shall be included in the curriculum. It is evident, however, on a moment's consideration that such concentration on subjects is likely to lead to a neglect of the curriculum as a whole. There is danger of undue emphasis on certain subjects and neglect of others. If, for example, through the urgency of those who are interested in arithmetic the policy is adopted of greatly enlarging this subject, time will have to be found for this expansion. Such a readjustment means that some part of the pupil's life, either his leisure time or the time which he gives to some other subject, will have to be encroached upon for arithmetic. If, on the other hand, some subject, such as grammar, is to be reduced in its demands for time, substitutes will have to be found to occupy properly the time and energy released.

Pressure from new subjects—The making of a total curriculum as contrasted with the reconstruction of particular subjects is an especially difficult problem, because modern civilization has brought to the door of the school materials for which there is no provision in the traditional program. For example, the elementary school is asked to introduce pupils to science, to acquaint them with some of the modern discussions of economics and ethics, to give them training in the fine and practical arts. The high school is asked to provide an endless variety of vocational and general courses which were never thought of in the high schools of a generation ago.

Relativity of topics—The school can solve its problem of organizing the curriculum as a whole only by selecting from among the possibilities. The relative importance of certain items of science as compared with items in art will have to be determined because the demand on school time is so great that some items will have to be omitted.

Correlation of topics and subjects—Furthermore, in such matters as grade placement of topics in particular subjects, there are many possibilities of advantageous correlation and many possibilities of serious incoordination. Some one responsible for the curriculum must consider such questions as the following: Is it better that the geography and history of New York State be studied together or separately? If they are to be studied together the courses in history and geography will have to be arranged so as to provide that the same topics come up at the same time in both courses or that the two subjects be fused. If, on the other hand, the topics in history and geography do not coincide and cross references are to be made between the two, the teachers concerned will have to know how far instruction in one line can base itself on antecedent lessons in the other.

Adjustments between subjects—The examples cited and others which readily come to mind make it clear that in addition to organizing particular subjects there will have to be an adjustment of subjects to one another.

Different aims of teachers—There is another reason why curriculum revision cannot properly be limited to a canvass of particular subjects. There is no school exercise which is determined in its character wholly by the subject-matter which it covers. One teacher teaches geometry so that it stimulates pupils and gives them a broad view of science; another teacher dealing with the same subject-matter has no outlook beyond the mere drill of the class in the facts of geometry with the result that the pupil's conception of science is narrowed and his methods of study perverted. The method of dealing with a subject is, therefore, a matter of major importance.

Different treatments—The study of the curriculum and of the purposes of education will never be complete until teachers understand that one and the same subject may under different conditions of treatment lead pupils to broad views or fail entirely of this purpose. For example, a teacher of geography may insist on details of location and fail to make clear important international relation. A teacher of Latin may be absorbed in grammar and syntax and fail entirely to give pupils the insight into civilization.

School subjects, means not ends—Teachers of particular subjects ought to have their attention drawn to these possibilities and ought to realize that subject-matter is merely a means of education, not the final end. The general purpose of the school's work is the making of effective members of society. This means that teachers should look beyond the particular subjects. Not only so, but the routine of school discipline in other matters than instruction can be made to contribute to the general end of training for social life or can be so conducted as to be quite formal and ineffective.

Social training vs. formalism—An example is as follows: The salute of the flag and the oath of allegiance have of late been widely accepted as proper school exercises. The justification for these exercises is said to be the desire to cultivate a spirit of patriotism. Does patriotism increase with the repetition of the flag salute? One has a crucial test on such an occasion as Halloween when the boys who have saluted the flag come to the practical test of life and have to decide whether the destruction of property and the annoyance of one's fellow citizens are compatible with a promise to protect American institutions. Patriotism must be thought of in some kind of specific setting if it is to be a true concept.

As a second illustration let us consider the time-honored subject of arithmetic. Too often the immediate end of arithmetical instruction has been defined in terms of the number of examples more or less accurately solved or the form in which the pupil writes his work on the page. Very seldom have teachers tried to show pupils that number is one of the greatest inventions of the race; that mastery of this highly perfected intellectual institution is what has made for success in the huge transactions of modern industry. Seldom have teachers themselves realized that number is the device by which man has been raised from the level of vague, inexact thinking to the scientific plane where the facts of nature can be measured with the nicest exactness and recorded in terms wholly free from ambiguity. Considerations of this type ought to make impossible formalism or looseness in the teaching of arithmetic.

Art for service, not for self—Let us consider in similar terms one of the fine arts. Drawing is sometimes thought of as a personal accomplishment which will raise one above the level of one's fellows. On the other hand, it may be thought of as a means of improving industrial products; of making American goods as attractive as those imported from Europe. Or, art may be thought of as a means of social expression supplementary to language and capable of developing community ideals and community interests. In the latter cases art becomes not a means of exclusive withdrawal from association with one's fellows, but a device for the transmission of ideas. If drawing is to be taught in the public school, which general purpose should be dominant? The answer is evident.

One might multiply cases indefinitely to show that education does not consist in the mastery of any body of knowledge considered apart from its social setting. The curriculum of the school is a succession of efforts to change the pupils from self-centered individuals into socially minded, co-operative members of the nation.

Formulation of school subjects for social ends—In order to make the school serve its true purpose every subject should be formulated in content and method so as to emphasize the social lessons which are contained in each field of knowledge.

Two forms of enrichment—A formulation of school subjects such as is called for in the foregoing statement requires at least two reforms in the curriculum. First, there must be imported into the traditional subjects new materials and, second, there must be new subject-matter dealing directly with social institutions and the social obligations of individuals.

By way of illustration of the first requirement it may be urged that arithmetic be enriched with legitimate application, geography be made to include new material on international relations, and reading matter be chosen which includes much that is of a higher level than the trivial stories which often constitute the reading exercises of the schools.

New occasions—new educational demands—By way of defense of the statement that there is need for entirely new subjects in the curriculum, it is to be pointed out that the present courses were arranged at a time when the people of the United States lived a much less complex life than they do at present. A half-century ago most of the people lived in rural sections. Children saw in the home industries and the activities of the farm how all the commodities used in daily life were produced. At that time there were no great transportation systems and none of the industrial organizations characteristic of our times. In short, American institutions were simple and they were taught by the home.

Today there is a new demand. Information about matters which relate to ordinary life cannot be gained by direct observation of one's environment. It is necessary for success in modern life that one be taught about matters which were not included in the older curriculum and will have to be introduced even if the older subjects have to be radically readjusted to make place for them.

Continuous curriculum revision demanded—What is true of the curriculum at the present time will certainly continue to be true in later periods as society expands. There must be continual additions to the curriculum.

The problem of keeping the curriculum up to date is one of the most difficult problems of the school from an administrative point of view. In the next section of this report there appears a plea for the expenditure of public money and the energy of selected teachers in the collection of new material for the curriculum. The justification for the policy there advocated is the necessity of constant enrichment of the instructional program.

Section III

Administrative devices for curriculum construction—The foregoing sections of this statement have attempted to define the general goals of education and to emphasize the necessity of coordinating the elements of the curriculum. It remains to discuss the administrative devices by which revision of the curriculum can be most advantageously accomplished.

The method of imitation, conservative and inadequate—In the past the common method of preparing a curriculum for a given school system has been the method of imitation. Some school officer has secured copies of the curricula outlined by a number of cities and states and has selected various topics from the different documents and put them together in a working arrangement and turned the whole over to the teachers to execute. This method succeeded in a measure because the topics called for in such curricula usually were familiar enough to be readily taken up by the teachers. Indeed, the courses were usually made with direct references to familiar textbooks and these were adopted as the sources of teaching material in all of the courses.

The practice of imitating curricula is the simplest device that an administrator can adopt and it seems in many cases to be the only device possible because of the exacting demands in other lines which absorb the energy and attention of most school officials. It is, however, evidently a highly conservative device and blocks the way to the adoption of new and progressive material. It cannot be defended as at all adequate. The discontent with present-day curricula grows directly out of the fact that the common procedure does not supply proper materials of instruction for progressive schools.

Importation of specialists—its value—A second method which has of late been adopted in some quarters is that of importing temporarily one or more specialists into the school system with the expectation that in this way teachers will be helped to reconstruct the curriculum. The specialists have in some cases been people who deal with particular subject-matters, such as history and science. In other cases the people called in have been students of the curriculum. This practice of calling in specialists for short periods is so recent that its full significance can hardly be estimated. It is clear, however, from the experience of a number of centers that have tried it that it stimulates a great deal of thinking among the teachers of the system and contributes much new instructional material.

Curriculum reconstruction by outside experts—its limitations—The difficulty with this temporary method of bringing fresh ideas into the curriculum is that the textbooks often do not supply the lessons desired, the teachers find it difficult to organize the new materials, and the curriculum suffers from a certain congestion of additions.

If the plan of reconstructing the curriculum through the cooperation of experts had no other limitations it would be out of the reach of most school systems for two reasons. The first of these is that the number of specialists in different fields is very limited and their services are usually in demand to such a degree that they cannot readily be secured. Secondly, most school systems do not have a sufficient margin in their budgets to make provision for the expense of such service.

Curriculum revision through local committees—A practice which is being widely adopted in order to avoid the dangers of mere imitation and the expense of wholesale importation of temporary specialists is the method of working through committees of teachers, principals, and supervisors. School officers can be found in every system who are especially interested in the various subjects of the curriculum. Such persons are in some cases well informed and progressive specialists in their fields. They are readily available and are drafted for service. The diffculty which arises at once when such an arrangement is undertaken is that the energy of these local school people is already absorbed in the daily routine to which each member of the staff of a public school is assigned. The great temptation in the case of local committees, as well as in the case of administrators who make up curricula, is to resort to the short method of imitation.

Curriculum revision—a major not an incidental duty—The public has never been led to think of curriculum revision as anything but an incidental side issue, a kind of unimportant addition to the day's work. When the matter is carefully considered it is recognized that the preparation of textbooks is a service which is, as a matter of fact, by no means purely incidental. The making of textbooks is a great private industry. The fact that it is private shows that the public has not been trained to think of the preparation of curriculum materials as a part of the teacher's regular duty.

The time has come in American education when effective means of dealing with the curriculum will have to be devised. Imitation of existing courses by superintendents and committees is no longer adequate, dependence on specialists imported for the occasion or on private industry will not serve any longer to keep the curriculum revised to the point which is desirable in a modern school system.

Cooperative effort essential—The new plan which seems to be dictated by experience calls for two changes in the general practices of American schools. First, the board of education and the public generally must be convinced that contributions to the revision of the curriculum are just as important a public duty as instruction. Boards of education must be willing to give some time of the best teachers of the system to the important task of keeping the curriculum alive and up to date. Second, it must be recognized that while teaching is a local function, construction of the curriculum calls for cooperation on the broadest scale. What is done in each school system must be made available for other systems. This interchange of experience and materials must not wait for the long process of incorporation of new ideas into textbooks of the ordinary types. Arrangements must be made for immediate and widely extended cooperation.

A national program—The subsequent sections of this Yearbook illustrate some of the steps which can be taken in the realization of a nation-wide program of curriculum revision. Put briefly, the plan is as follows.

The local school board's contribution—time of a competent person—Energy for work on the curriculum is secured by persuading the board of education to release a competent teacher or supervisor from some of the routine duties of his or her position. The time and energy thus secured for work on the curriculum is assigned to some specific task, such as the revision of the course in arithmetic or the course in nature study. The officer who undertakes this task corresponds with similar persons set aside in other school systems and also makes investigations in the library and in periodical literature in the effort to find productive material. The result of the cooperative discussion and investigation by a number of people is the pooling of the best ability which the school systems engaged in the work can command.

A central council necessary—The plan as outlined thus far is in danger of suffering from overemphasis on individual subjects, a danger which has been pointed out in preceding paragraphs. This can be avoided only by the organization of a central council to deal with the curriculum as a whole. In the larger school systems such a central council can be supported within the system. In most of the states the best arrangement will undoubtedly be the organization of an aggressive campaign through the state department which will unite in suitable groups the smaller systems.

What is needed in all these cases is a realization on the part of the public and the teaching body that curriculum reconstruction is a task which must be carried on constantly so as to keep instruction moving forward at a rate equal to that of the civilized surroundings of pupils.

Feasibility of a cooperative plan—The Commission on the Curriculum of the Department of Superintendence has aimed to supply some examples of the way in which the general type of plan here suggested can be carried out. In doing this work the Commission has found that a number of school systems have been willing to give the time of teachers and supervisors. It has also been found that correspondence is effective in bringing together very valuable material. It is hoped that such demonstration as has been given will induce other school systems and state departments of education to accept curriculum revision as a legitimate part of their regular work.

The Commission believes that a service can be rendered by the Department of Superintendence in continuing for some years to come the type of work which has been carried on during the last two years.

A ready-made curriculum impracticable—It may have been the expectation of some of the members of the Department that this Commission would supply a revised national curriculum which could be put into all of the school systems of the country. That expectation belongs to the imitation age of curriculum-making. The adoption of a ready-made curriculum by a school system is not the policy advocated. The school systems of this country must realize that a curriculum must fit the local environment and to this end must be constructively adapted to the materials available for teaching in each school system. Furthermore, a ready-made curriculum would have to be made over almost immediately after adoption in order to bring it up to date. The Commission on the Curriculum of the Department of Superintendence believes that it would be a fundamental mistake to attempt to offer to its members a ready-made curriculum.

Purpose of the Commission on the Curriculum—What the Department of Superintendence has undertaken to do through its Commission on the Curriculum is to stimulate cooperative effort in a vigorous attack on the problems of curriculum construction in every school system of the United States. The work of this Commission will have accomplished its purpose if teachers begin to look for new material as a part of their regular duty; if they formulate this new material in such a way as to make it effective in their classrooms; and if superintendents establish local councils on curriculum and establish lines of communication with other school systems.

PART II

Organizing the Teaching Profession for Curriculum Revision

CHAPTER II

The Work of the Commission on the Curriculum to Date

How the Commission on the Curriculum originated—At the Cleveland Convention of the Department of Superintendence in 1923 an entire morning session was devoted to the subject of the Elementary School Curriculum. The subject was discussed by these five speakers: Charles H. Judd, Otis W. Caldwell, Ernest Horn, Amalia M. Bengston, and William McAndrew. Following these speeches a motion was made by Edwin C. Broome, Superintendent of Schools of Philadelphia, that a commission be created "for the purpose of bringing together the elements for the construction of a suitable curriculum for the boys and girls of American public schools." Acting on this motion, the Department of Superintendence authorized the president and executive committee to create a commission for the purpose outlined by Dr. Broome.

How the first Curriculum Yearbook developed—The Executive Committee of the Department of Superintendence at its meeting in May, 1923 voted to coordinate the work of the proposed Commission on the Curriculum with the 1924 Yearbook Committee which had been appointed previously. President Payson Smith of the Department of Superintendence and Superintendent Robinson G. Jones, chairman of the committee for the Second Yearbook, held a conference in Cleveland a few days later to formulate a working program. It was decided to make the study of the curriculum a two-year problem. The 1924 Yearbook Committee was to conduct the work for the first year and the proposed Commission on the Curriculum during the second year.

The purpose and scope of the first Curriculum Yearbook—A sub-committee, consisting of Payson Smith, Will C. Wood, John K. Norton, and Sherwood D. Shankland, was appointed which met in Oakland, California, July 6, 1923. At that time topics were selected and assigned. The Second Yearbook, *The Elementary School Curriculum* followed the outline then adopted. The purpose of this Yearbook was to bring to the attention of superintendents of schools throughout the country the need for curriculum revision, how this need could best be met, and to present a review of current curriculum practice as a basis for the future work of the Commission on the Curriculum.

The Research Division of the National Education Association undertook a survey of current curriculum practice which involved a nation-wide search for material and much labor of organization. The machinery and organization for devising, revising and supervising the curriculum was discussed from the viewpoint of the superintendent of schools, the principal, and the classroom teacher. The intensive study of time allotments of school subjects, included in the general analysis of present elementary school curriculum practice, showed clearly the need for evaluation of present curriculum content and careful determination of objectives as a basis for the selection of material to be taught in our public schools.

Collection and analysis of outstanding research studies, the first contribution of the Commission on the Curriculum—At the Chicago meeting of the Department of Superintendence in February, 1924, President Payson Smith appointed the original members of the Commission on the Curriculum with Edwin C. Broome, superintendent of schools, Philadelphia, as chairman. The Commission held its first meeting in Washington on July 3, 1924. The question as to what contribution the Commission could make that would be of greatest help to superintendents of schools throughout the country, practically all of whom were faced with the problem of curriculum revision, was discussed. The Commission unanimously agreed that the most helpful contribution would be the collection and analysis of outstanding research studies in each of the subject courses of the elementary school curriculum. It was known that many such studies of high value had been made which should be considered in the revision of curricula; but they were, for the most part, inaccessible because of their technical form, or because of their publication in isolated monographs or magazines, or because of their fragmentary distribution. A review of selected scientific studies in one volume together with an analysis and summary of them in terms easily understandable, was the service for scientific curriculum construction which the Commission on the Curriculum sought to render in the Third Yearbook, *Research in Constructing the Elementary School Curriculum*.

The work of collecting and analyzing curriculum research studies was delegated to the Research Division of the National Education Association. The time allotted was less than six months. The leadership of the nation in the curriculum field was sought out. Twelve sub-committees were appointed, one for each elementary school subject. A search for material was made in universities, colleges, and school systems throughout the country. As far as possible all published and unpublished elementary curriculum studies were collected. Nation-wide cooperation was received.

How the Cooperative Plan for Curriculum Revision originated—Long before the analysis of research studies was completed, it was realized that the 1926 Yearbook should contain material from the field, that is, from school systems actually engaged in the work of curriculum revision—statements telling how they were applying the findings of research studies and reports of studies which they themselves were carrying on.

At a meeting of the Commission on the Curriculum held in Washington, it was agreed that a national committee should present raw material rather than a national curriculum for general acceptance. It was further agreed that the Commission on the Curriculum should consider its chief function that of stimulating local endeavor in curriculum study on the part of school faculties, and providing for them a central agency which would act as a clearing-house where the best results from local communities would be assembled and disseminated. In accordance with this decision, Superintendent Zenos E. Scott, presented a working outline of the Cooperative Plan of Curriculum Revision at the February, 1925, meeting of the Department of Superintendence. The plan was adopted and the Commission on the Curriculum authorized to put it into effect.

What is the purpose of the Cooperative Plan of Curriculum Revision and how has it functioned?—The Cooperative Plan is an attempt to formulate a practical way by which important contributions in curriculum revision and enrichment may be made available to school systems throughout the country. The plan attempts to foster research and professional cooperation. It aims to stimulate and encourage local interest and endeavor in the important work of curriculum revision. It does not attempt paternally to conduct a program of curriculum revision. Whatever good comes out of the plan will be a reflection of what is done locally. Such help as the small staff at the National Education Association Headquarters can offer through its Research Bulletins, Yearbooks, limited correspondence, and through exchanging materials prepared in school systems working on similar problems, is small in comparison with what each school system can do for itself. The need for a cooperative scheme whereby the best efforts of school administrators, classroom teachers, and curriculum specialists in all parts of the country can be pooled so that each can profit from the experience and best curriculum practice of all, is emphasized by the hearty response which the Cooperative Plan has received.

Early in May, 1925, enrolment blanks were mailed to all members of the Department of Superintendence. Approximately 300 school systems enrolled. The one prerequisite for enrolment was that each local school system contribute at least the part-time of one officer who was to work on the problem of curriculum revision in his own school system.

Below are listed the school systems now enrolled in the Cooperative Plan of Curriculum Revision. Cities of all sizes and in all stages of curriculum revision are represented. Their nation-wide distribution is shown by the map on page 25.

School Systems Enrolled in Cooperative Plan of Curriculum Revision

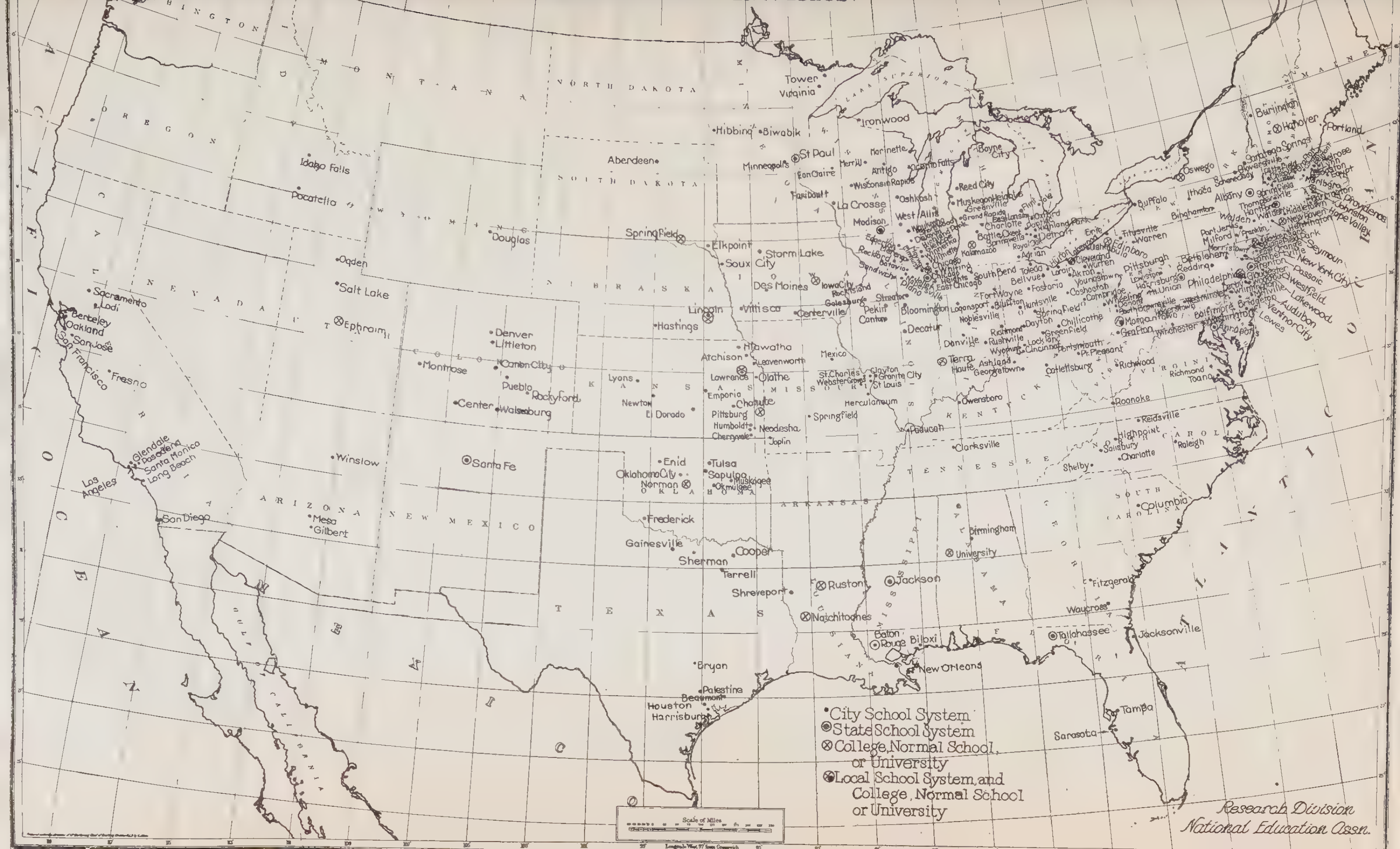
Cities Over 100,000 in Population: Akron, Ohio; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dayton, Ohio; Denver, Colo.; Des Moines, Iowa; Detroit, Mich.; Grand Rapids, Mich.; Houston, Texas; Los Angeles, Calif.; Minneapolis, Minn.; New Orleans, La.; Oakland, Calif.; Philadelphia, Pa.; Pittsburgh, Pa.; Reading, Pa.; Richmond, Va.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Springfield, Mass.; St. Louis, Mo.; Toledo, Ohio; Trenton, N. J.; Washington, D. C.; Wilmington, Del.; Youngstown, Ohio; New York City, N. Y.

Cities 30,000 to 100,000 in Population: Battle Creek, Mich.; Beaumont, Texas; Berkeley, Calif.; Bethlehem, Pa.; Binghamton, N. Y.; Charlotte, N. C.; Chicopee, Mass.; Columbia, S. C.; Decatur, Ill.; East Chicago, Ind.; East Orange, N. J.; Erie, Pa.; Flint, Mich.; Fort Wayne, Ind.; Fresno, Calif.; Highland Park, Mich.; Jacksonville, Fla.; Joliet, Ill.; La Crosse, Wis.; Lakewood, Ohio; Lincoln, Nebr.; Long Beach, Calif.; Lorain, Ohio; Lynn, Mass.; Muskogee, Okla.; Ogden, Utah; Oklahoma City, Okla.; Oshkosh, Wis.; Pasadena, Calif.; Passaic, N. J.; Pittsfield, Mass.; Pontiac, Mich.; Portland, Maine; Portsmouth, Ohio; Pueblo, Colo.; Richmond, Ind.; Roanoke, Va.; Rockford, Ill.; Rock Island, Ill.; Sacramento, Calif.; San Diego, Calif.; San Jose, Calif.; Schenectady, N. Y.; Shreveport, La.; Sioux City, Iowa; South Bend, Ind.; Springfield, Mo.; Springfield, Ohio; Tampa, Fla.; Tulsa, Okla.; Wheeling, W. Va.

Cities 10,000 to 30,000 in Population: Aberdeen, S. Dak.; Adrian, Mich.; Ashland, Ky.; Ashtabula, Ohio; Atchison, Kans.; Bellingham, Wash.; Belmont, Mass.; Biloxi, Miss.; Bloomington, Ill.; Bridgeton, N. J.; Burlington, Vt.; Cambridge, Ohio; Canton, Ill.; Chanute, Kans.; Chicago Heights, Ill.; Chillicothe, Ohio; Coshocton, Ohio; Donora, Pa.; Eau Claire, Wis.; El Dorado, Kans.; Emporia, Kans.; Enid, Okla.; Faribault, Minn.; Galesburg, Ill.; Glendale, Calif.; Gloucester, N. J.; Gloversville, N. Y.; Granite City, Ill.; Hackensack, N. J.; Hagerstown, Md.; Hastings, Nebr.; Hibbing, Minn.; High Point, N. C.; Ironwood, Mich.; Ithaca, N. Y.; Joplin, Mo.; Lawrence, Kans.; Leavenworth, Kans.; Logansport, Ind.; Marinette, Wis.; Marlboro, Mass.; Maywood, Ill.; Melrose, Mass.; Middletown, Conn.; Millville, N. J.; Morgantown, W. Va.; Morristown, N. J.; Okmulgee, Okla.; Owensboro, Ky.; Paducah, Ky.; Palestine, Texas; Pekin, Ill.; Pocatello, Idaho; Port Jervis, N. Y.; Raleigh, N. C.; Salisbury, N. C.; Santa Monica, Calif.; Sapulpa, Okla.; Saratoga Springs, N. Y.; Sherman, Texas; Streator, Ill.; Virginia, Minn.; Warren, Ohio; Warren, Pa.; Waukesha, Wis.; Waycross, Ga.; West Allis, Wis.; Whiting, Ind.

Cities 5,000 to 10,000 in Population: Antigo, Wis.; Bellevue, Ohio; Bluffton, Ind.; Bryan, Texas; Centerville, Iowa; Charlotte, Mich.; Clarksville, Tenn.; Concord, Mass.; Darby, Pa.; Fitzgerald, Ga.; Fostoria, Ohio; Gainesville, Texas; Grafton, Mass.; Grafton, W. Va.; Highland Park, Ill.; Idaho Falls, Idaho; Johnston, R. I.; Lewistown, Pa.; Ludlow, Mass.; Merrill, Wis.; Mexico, Mo.; Muskegon Heights, Mich.; Newton, Kans.; Reidsville, N. C.; Ridgefield Park, N. J.; Royal Oak, Mich.; Rushville, Ind.; Seymour, Conn.; St. Charles, Mo.; Terrell, Texas; Thompsonville, Conn.; Titusville, Pa.; Walden, N. Y.; Webster Groves, Mo.; Westfield, N. J.; Wilmette, Ill.; Winchester, Va.; Winnetka, Ill.; Wisconsin Rapids, Wis.; Woodbury, N. J.

·CURRICULUM REVISION



Research Division
National Education Assn.

Cities 2500 to 5000 in Population: Audubon, N. J.; Barrington, R. I.; Batavia, Ill.; Boyne City, Mich.; Canon City, Colo.; Catlettsburg, Ky.; Cherryvale, Kans.; Clayton, Mo.; Cooper, Texas; Delavan, Wis.; Edgerton, Wis.; Elmhurst, Ill.; Franklin, N. J.; Frederick, Okla.; Georgetown, Ky.; Glencoe, Ill.; Greenfield, Ohio; Greenville, Mich.; Hiawatha, Kans.; Humboldt, Kans.; Lambertville, N. J.; Lockland, Ohio; Lodi, Calif.; Lyons, Kans.; Mesa, Ariz.; Montrose, Colo.; Mt. Union, Pa.; Naperville, Ill.; Noblesville, Ind.; Olathe, Kans.; Point Pleasant, W. Va.; Rockyford, Colo.; Shelby, N. C.; Shorewood, Wis.; South Brownsville, Pa.; Storm Lake, Iowa; Walsenburg, Colo.; Westminster, Md.; Winslow, Ariz.

Cities below 2500 in Population: Biwabik, Minn.; Center, Colo.; Douglas, Wyo.; East Lansing, Mich.; Egypt, Mass.; Elk Point, S. Dak.; Gilbert, Ariz.; Glen Rock, N. J.; Harrisburg, Texas; Herculaneum, Mo.; Hope Valley, R. I.; Huntington, N. Y.; Huntsville, Ohio; Huron, Ohio; Lakewood, N. J.; Lewes, Del.; Littleton, Colo.; Marengo, Ill.; Milford, Pa.; Neodesha, Kans.; Oconto Falls, Wis.; Oxford, Mich.; Plano, Ill.; Reed City, Mich.; Richwood, W. Va.; Sandwich, Ill.; Sarasota, Fla.; Springwells, Mich.; Toano, Va.; Tower, Minn.; Ventnor City, N. J.; Villisca, Iowa; Wyoming, Ohio; Yale, Mich.

State and County Departments of Education: State Departments of California, Connecticut, Florida, Louisiana, Maryland, Minnesota, Mississippi, New Jersey, New Mexico, New York, Pennsylvania, Wisconsin, Baltimore County, Md.; Cuyahoga County, Ohio; Lee County, Ga.; Rutherford County, Tenn.; Sonoma County, Calif.; Wayne County, Ga.; Will County, Ill.; Wood County, Ohio.

Educational Institutions: University of Alabama, University, Ala.; University of California, Berkeley, Calif.; New Haven Normal, School of Gymnastics, New Haven, Conn.; Yale University, New Haven, Conn.; Character Education Institution, Washington, D. C.; University of Chicago, Chicago, Ill.; State Normal School, Terre Haute, Ind.; State University of Iowa, Iowa City, Iowa; Haskell Institute, Lawrence, Kans.; State Teachers College, Pittsburg, Kans.; Louisiana Polytechnic Institute, Ruston, La.; State Normal College, Natchitoches, La.; Boston University, Boston, Mass.; Western State Normal School, Kalamazoo, Mich.; College of St. Catherine, St. Paul, Minn.; University of Nebraska, Lincoln, Nebr.; Dartmouth College, Department of Education, Hanover, N. H.; New York University, New York City, N. Y.; Teachers College, Columbia University, New York City, N. Y.; State Normal School, Oswego, N. Y.; Cleveland School of Education, Cleveland, Ohio; University of Oklahoma, School of Education, Norman, Okla.; Edinboro State Normal School, Edinboro, Pa.; University of Pennsylvania, Philadelphia, Pa.; Rhode Island College of Education, Providence, R. I.; Southern State Normal School, Springfield, S. Dak.; Snow College, Ephraim, Utah; West Virginia University, Morgantown, W. Va.

Thirteen national committees appointed to further the work of the cooperative plan and the preparation of the 1926 Yearbook—Since the Commission on the Curriculum is chiefly an organizing agency, it sought to promote the Cooperative Plan of Curriculum Revision by organizing subject committees in each of the twelve subjects in which the cooperating school systems had expressed greatest interest. Practical school administrators who represent the field were selected as chairmen of these committees. Each subject committee included at least one research worker or specialist in that particular subject who acted as an adviser. Committee members, as far as possible, were chosen from the same part of the country. This made it possible for most committees to meet at least once. A vast amount of correspondence was carried on by the committee chairmen with the cooperating cities. Effort was made to pool the best that each school system had to offer. In the subject committee reports presented in Part III, space did not permit each chairman to recount how his committee functioned. This procedure is given in detail on page 59 for the Committee on Elementary Science and Nature Study. The procedure of this committee was more or less typical of all. In addition to the twelve subject committees, a general Coordinating Committee has been at work.

How the Headquarters Staff of the National Education Association has helped in the work—The Department of Superintendence and the Research Division have acted as a clearing-house for the 300 cooperating school systems and the thirteen national committees. Each school system enrolled in the cooperative plan received at least one personal letter from Headquarters. Some received many more, depending upon the number of requests they made. Selected bibliographies and case-histories of organization plans for curriculum revision in different sized school systems were the helps most frequently supplied. The September-November, 1925, Research Bulletin, entitled, *Keeping Pace with the Advancing Curriculum,* was prepared at the request of the Commission on the Curriculum. It presents to committees working on programs of curriculum revision the results of a painstaking winnowing of the best available material. It tells where carefully selected material for further study may be obtained. An extensive curriculum library is being built up at the National Education Association Headquarters to help in supplying the many requests for information on curriculum problems.

The 1926 Yearbook, The Nation at Work on the Public School Curriculum, is the latest product of the work of the Commission on the Curriculum. Working under the leadership of the Commission, the Research Division of the National Education Association has supplied the machinery necessary for the preparation of such a document. This division was responsible for drafting Part II, and for assembling, unifying, and editing the entire Yearbook. These two major purposes have been held in mind:

1. How may the best of the large amount of curriculum work now in progress in school systems be brought to light and findings summarized?

2. How may this material be put into such form as to make it of greatest help to local course of study committees and encourage them to undertake further experimentation and research?

CHAPTER III.

How City, County, and State School Systems Are Attacking The Problem of Curriculum Revision

Curriculum Revision—A problem which cannot be dodged—Is the present course of study in harmony with present social and individual needs? Is it in harmony with advancing educational practice based upon the rapidly developing science of education? These questions are knocking at the door of every school system with increasing insistence. They cannot be disregarded by superintendents and teachers who would conduct a truly modern school. Hundreds of school systems, many of them with extremely meagre resources, are squarely facing these problems:

1. How shall a program of revision be organized which will result in the best possible course of study?
2. How should provision be made for continuous modification and improvement of this course?
3. How may the teaching corps be stimulated actively to participate in the revision, and intelligently to cooperate in its interpretation in the classroom?
4. How may the community be brought into sympathetic understanding of the whole program?

A curriculum revision program possible in practically every school system—The resources of the hundreds of school systems now struggling with the problem of curriculum revision vary widely. Some large cities are able to organize well-financed programs which bring to bear upon the problem the resources of a well-trained supervisory and teaching corps, as well as the help of outside specialists. Some small communities have already made substantial progress even though most of these resources were lacking. Each school system must organize a different plan of curriculum revision, because of these variables: size of system, local community needs, training of superintendent and supervisory staff, training and experience of teachers, vision and initiative of officers and teachers, availability of libraries, specialists, and other outside resources, and willingness of the school board to approve and finance the program. Although extremely meagre resources in some of these respects are available, programs of curriculum revision are being successfully carried on in many local school systems.

This section presents some features of plans for revising and building local courses that are in actual practice. It answers some of the major questions which arise in every program of curriculum revision. An attempt has been made to describe a variety of practices rather than to argue for any particular one. On the other hand, limited space has made it impossible to cover every variety of practice reported by cooperating cities. Many illustrations have purposely been selected from small cities.

The curriculum revision programs of some of our larger cities have already been reported in detail.[1] It is therefore unnecessary to describe them here. Some cities which have been leaders in the work of curriculum revision have provided for the continuance of this work as an integral part of their school programs by creating bureaus and appointing directors of curriculum revision. Among such cities may be mentioned: Denver, Colo.; Los Angeles, Long Beach, and Oakland, Calif. The description of the Cooperative Plan of Curriculum Revision on pages 23 to 26, shows that a large number of cities are moving in this direction.

Sources of Leadership

There is need for expert guidance in every program of curriculum revision. The following examples of current practice show that in some instances, this expert guidance comes from within the school system; and at other times from without.

State experts act as advisers. Two teachers trained in summer school—In Bridgeton, New Jersey, the superintendent of schools initiated the program of curriculum revision by organizing committees of teachers. Each committee had for its adviser either a state supervisor, normal school, or university instructor. Two teachers were sent to a summer school, offering special work on the course in social studies, since that subject was to be introduced into the seventh and eighth grades of the Bridgeton schools on a new basis.

Local supervisors give directions—In Lynn, Massachusetts, committees of teachers varying in number from five to twelve were appointed to work under the general direction of their respective supervising heads.

In Fort Wayne, Indiana, each important line of school work is in charge of a supervisor. The supervisor is directly responsible to the superintendent's office for a curriculum in line with modern ideas.

The superintendent of schools directly supervises—In Johnston, Rhode Island, up to the present time, curriculum revision has been carried out through teachers' committees working with the superintendent of schools. This year, a teachers' council, composed of a teacher from each grade and school building in the system has been organized. Through this council, the superintendent of schools carries on a curriculum revision program which he directly supervises.

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[1] Bobbitt, Franklin, *Curriculum Making in Los Angeles,* Supplementary Education Monographs, No. 20, University of Chicago, June, 1922. 105p.

Bobbitt, Franklin, *How to Make a Curriculum,* Houghton Mifflin Co., 1924. 292p.

Kyte, George C. "The Cooperative Development of a Course of Study," *Educational Administration and Supervision,* December, 1923. p.517-36.

Threlkeld, A. L. *Curriculum Revision; How a Particular City May Attack the Problem.* Official Report, Department of Superintendence, National Education Association, 1925. p.194-201.

Threlkeld, A. L. "The Denver Plan of Curriculum Revision," *Second Yearbook* of the Department of Superintendence, National Education Association, 1924. p.118-120.

Threlkeld, A. L. "Fundamentals in Curriculum Revision," *American Educational Digest,* Vol. 44, No. 2, October, 1924. p.69.

Wilson, H. B. "Machinery for Devising, Revising and Supervising the Elementary School Curriculum—The Administrator's Viewpoint"—*Second Yearbook* of the Department of Superintendence, National Education Association, 1924. p.37-45.

The superintendent of schools of Passaic, New Jersey, writes: "It is my plan to take charge myself of the reorganization of the instruction and courses of study in the seventh, eighth, and ninth grades. We cannot expend any money this coming year in the employment of experts or specialists. What we do we shall have to do ourselves as well as possible."

Heads of departments are aided by director of research and guidance—In Shorewood, a suburb of Milwaukee, Wisconsin, the heads of departments, English, mathematics, music, etc. have one period set aside every day for supervisory purposes of all the work in the grades and high school, in each particular branch. These heads have committees of eight teachers working with them for the elementary school and also a committee for the junior-senior high school. The director of research and guidance consults with each committee and checks up their outlines. This organization works along through the year, doing as much as it can. At the close of each year the entire teaching force works for two weeks, checking up the difficulties of the year, and revising the work for the ensuing year in the light of past experiences.

Outside specialists employed—Melrose, Massachusetts, employed an arithmetic specialist to direct the work of the local arithmetic committee. The plan of employing an outside specialist to guide the work of all local course of study committees, or of particular subject committees is a common practice.

In Baltimore, Maryland, local committees, composed of classroom teachers, heads of departments, and supervisors prepared tentative outlines. During the time that these preliminary courses of study were being tried in the classroom, the committees continued their work. An outside expert in each subject was secured, and with the cooperation of these advisers the committees revised the preliminary courses of study.

Department of supervision of instruction responsible for curriculum—Detroit, Michigan, has a specialized group of supervisors consisting of fifty people, whose main problem is to develop the instructional program—to see that the curriculum is kept balanced and that all departments are well developed. This work consists largely of doing research necessary for building courses of study, observing them in operation, and devising ways and means for building courses of study which are workable by the great mass of teachers and which at the same time lead the way to definite instructional improvements.

Leadership must not be one-sided—Curriculum making for reorganized education, according to Bobbitt[1], must be led and directed by someone who is not primarily interested in school subjects or departments, but in education. In other words, the person who directs a curriculum revision program must see the child as a whole. The subject specialist is too apt to see pupils only in relation to his subject. The home economics person sees a home economics child; the spelling teacher sees the spelling child or the misspelling child; and the writing supervisor sees the child in relation to certain writing skills.

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[1] Bobbitt, Franklin K. *American Educational Digest.* January, 1925. p.207.

The First Step in a Program of Curriculum Revision

These are some of the practices reported by superintendents of schools:

1. Preliminary survey of the achievement of pupils to reveal city-wide defects in the curriculum.

2. Discussion by the Teachers' Administrative Council, an organization made up of representatives from each of the school buildings, of the advisability of studying the curriculum problem.

3. Preliminary meeting of the whole teaching force for explanation of the project by the superintendent of schools or the specialist who is to act as an adviser.

4. Organization of a Teachers' Council composed of a teacher from each grade and school building in the local system, to work on curriculum revision under the supervision of the superintendent of schools.

5. Conducting of local extension courses in curriculum construction under the leadership of faculty members of a local state teachers college or university. In some systems all teachers interested are enrolled in these classes; in others, special groups are enrolled such as the supervising principals. In one city, sixty selected teachers were enrolled; in another, all members of course of study committees. In most cases teachers secure university credit for these courses. One city laid the ground for a course in curriculum construction, a year in advance through departmental meetings.

6. Appointment, by the superintendent of schools, of committees of teachers to work on course of study revision under the general direction of their respective supervisory heads.

7. Broaching a plan of curriculum revision in a general faculty meeting of all elementary teachers in the city, explaining the aims and purposes of the plan and securing promise of cooperation of the faculty group.

8. Review of daily lesson plan books, which have been kept over a period of years by local teachers, as a background on which to build new courses of study.

9. Checking present local school practice against curriculum ideals.

The following scheme was tried out in Cherryvale, Kansas:

> *Beginning procedure*—A large chart with the printed aims of the Cherryvale public schools was made. These aims were much the same as those set forth in *Cardinal Principles of Secondary Education.* A meeting of the principals and teachers in each building was called. The superintendent of schools took the chart of educational aims to each building and asked that teachers bring their working programs. Questions of this nature were raised in each meeting:
>
> a. Do we accept these aims as our final goals?
>
> b. Should we not have some definite schematic plan for caring for each aim listed?

c. Have we planned in our programs to care for the first aim? The second aim?

Each aim was taken up separately in this manner. The consensus of opinion was that there was no city-wide plan for caring for a health program, character training or development of citizenship; along these lines, work was merely being done here and there by individual teachers.

In each school, a desire was expressed by both teachers and principals to do something to correct the situation, when it was brought to their attention that there were certain objectives which heretofore had not been recognized in true proportion to their importance.

Follow-up scheme—Shortly following these meetings, the principal of each school was asked to assign one delegate from his building to work out some plan of caring for each educational aim not receiving proper attention.

These delegates were expected to make recommendations as to the advisability of (1) Working up a course of study, (2) setting up a list of guiding principles, or (3) adopting some "ready-made subject-content," as for example, the Report of the Joint Committee on Health Problems.

10. Analyzing the existing course of study.

In West Allis, Wisconsin, the first unit of the curriculum revision program consisted of a careful analysis of the local course of study. Blanks and suggestions were sent from the superintendent's office calling for information in terms of these six divisions: General objectives, grade objectives, activities, methods, materials and outcomes. There was no desire to break entirely with the past. The plan was to conserve and utilize what was deemed of value in the existing course of study. It was believed that the outlining of the old course under such heads as objectives, activities and materials would serve as a definite and concrete introduction to the preparation of a new course under the same heads.

How Are Course of Study Committee Members Chosen?

These methods of selecting the personnel of course of study committees have been reported through the Cooperative Plan of Curriculum Revision of the Department of Superintendence:

1. *Nominations made by local teachers' association with superintendent's approval*—In Pueblo, Colorado, the majority of the committees are nominated by the teachers association of the city, with the approval of the superintendent.

2. *Elementary principals make selections subject to superintendent's approval*—In Millville, New Jersey, the elementary school principals, on the basis of their subject interests were asked to assume the chairmanship of elementary school subject committees. Five assistants were selected by each chairman and approved by the superintendent of schools. The personnel of each committee had one representative from the first two grades; one to represent grades three and four; one for grades five and six; and one for the junior high school. One extra member was selected at large on the basis of his particular fitness to serve.

In Fresno, California, course of study committees are appointed by the superintendent of schools after conference and nomination of persons by local school principals. Conferences of both elementary and secondary school principals are held monthly with the superintendent of schools.

3. *Superintendent's office selects outstanding teachers*—In Lawrence, Kansas, the superintendent's office appointed subject committees, composed of outstanding teachers in the system. Committees functioned in such a way that they secured or tried to secure any contribution that any member of the staff could make.

In Cherryvale, Kansas, teachers in the elementary grades were studied as to their probable value to the program of curriculum revision. Their training, experience and work were considered. A call was sent out to the teachers selected, asking them to list their first, second, and third choice of subject interest.

4. *Teachers selected who desire university credit afforded in curriculum course*—Seventy teachers were invited by the school administration of Long Beach, California, to serve as members of the course of study committees in social science and English. The invitation stated that the acceptance entailed attendance upon a university extension class in the curriculum and willingness to try out, criticize, and suggest revisions of first drafts of courses.

In general, teachers were selected who desired the university credit afforded by the curriculum course. The board of education paid the tution fee charged by the university. The extension instructor is the assistant in charge of curriculum revision in the research department of the public schools.

Methods of Attack Used by Course of Study Committees

These are some of the methods of attack used by cities enrolled in the Cooperative Plan of Curriculum Revision. Of special interest are those programs which have been "developed out of the necessities of life in small school systems, not highly endowed financially."

1. *Preliminary activities—reading course under the direction of the superintendent of schools*—In Pueblo, Colorado, committees composed of classroom teachers, under the direction of the superintendent of schools, carried on a course of reading, covering the research that had already been done in their respective subjects. These committees met regularly once a month for a year. At the end of that time, they submitted preliminary reports.

2. *Committees under leadership of school principals study and meet with specialists*—In Millville, New Jersey, faculty committees were appointed with principals as chairmen. Each committee met over a period of a year once a month, usually in the evening. These meetings lasted for two or two and a half hours. Bibliographies of available curricular material were furnished each committee. Members of the State Department of Education and experts in curricular activities of state normal schools and universities of Pennsylvania were consulted.

3. *Five steps outlined in St. Louis program of curriculum revision*—This practical and systematic general outline is presented by the school officer in charge of curriculum construction in St. Louis, Missouri:

> a. Inquiry into the general and specific aims and objectives of public education for St. Louis. This includes setting up general aims for the system as a whole and specific aims for each division of the system.
>
> b. Study of what the schools may do to achieve these aims after they have been set up.
>
> c. Allotment of time to each subject and the allotment of the program of studies in the various divisions of the school system from the kindergarten through the Harris Teachers College.
>
> d. Selection of content which will result in attaining the objectives set up.
>
> e. Comprehensive objective measurement program, with the dual object of measuring the pupils' progress in the subject matter provided, and determining how far the content assists the pupils in progressing towards the aims set up.

4. *Houston, Texas, curriculum reconstruction program begins with review of best current practice in local schools*—Under the leadership of the superintendent of schools, the board of education of Houston, Texas, has inaugurated a four-year curriculum reconstruction program.

While this program was not officially launched until the fall of 1925, many months prior to that time the superintendent of schools and his board of education together with school leaders in the city generally, had been discussing the curriculum needs of the schools and the possibilities of betterment.

Some administrative features of the program are: (1) Taking care in the committee organization of the joint administration and subject-matter responsibilities, and (2) the interlocking of the Research and Development Committees with the Committees on Experimentation and Practice. The relationship of these committees are shown in Chart I on page 35.

From the standpoint of program procedure, these are some of the unique features of the Houston Plan:

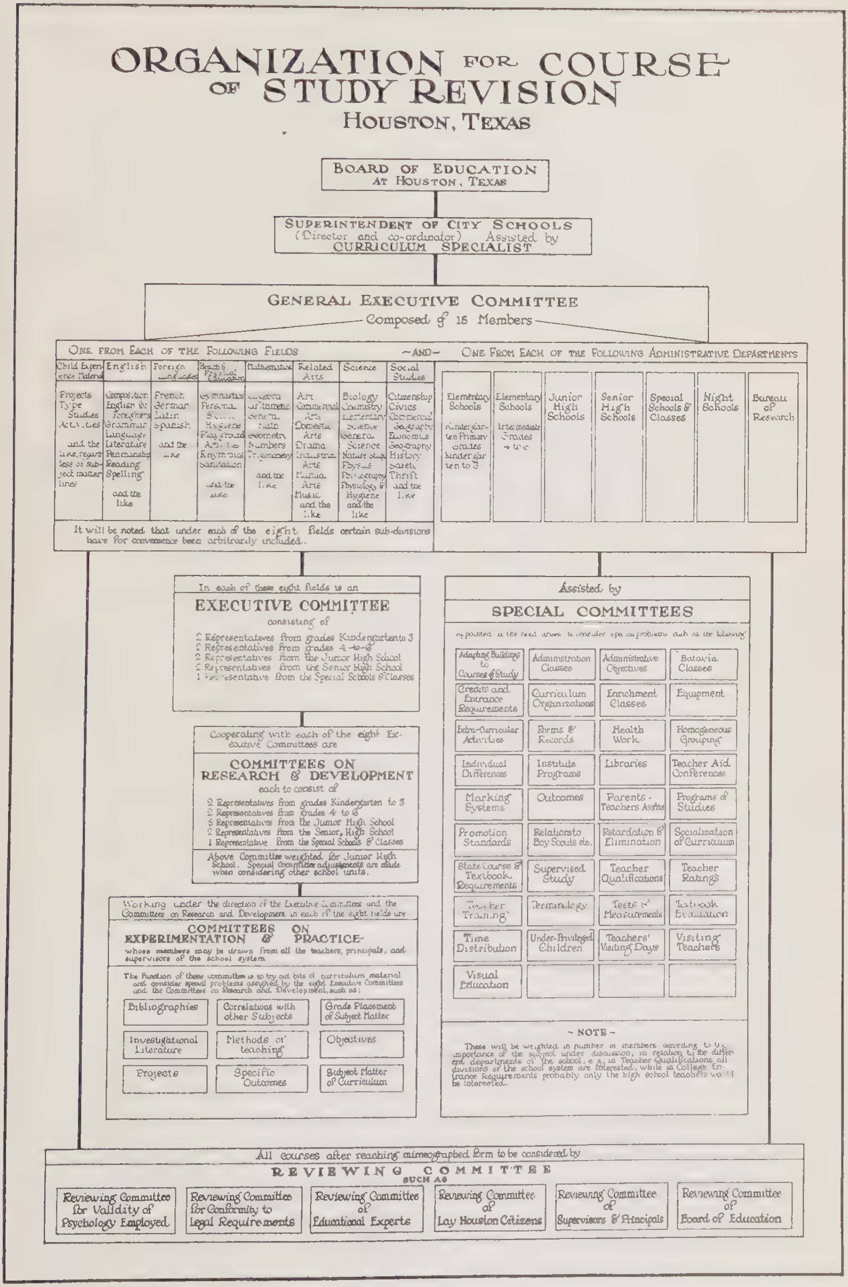
a. Beginning with present practice in Houston. After a series of careful explanations extending over a period of two school terms, the first general request made of all teachers was:

> After thinking carefully over all your teaching experience, please turn in to your appropriate research committee that piece of teaching which you judge to be your very best. This may be of any kind you desire; a drill exercise, a project, or a laboratory experiment.

b. The setting up of criteria for the judging of worthwhileness of teaching units. These criteria were developed in the Research and Development Committees and finally approved by the Executive Committee. They are now being used in evaluating reports of best present practices in Houston as indicated by the responses to the request made under point "a."

c. The selection of best pieces of teaching from other cities in America. This feature of the program is now under way.

CHART I


ORGANIZATION FOR COURSE OF STUDY REVISION
HOUSTON, TEXAS
BOARD OF EDUCATION AT HOUSTON, TEXAS
SUPERINTENDENT OF CITY SCHOOLS (Director and co-ordinator) Assisted by CURRICULUM SPECIALIST
GENERAL EXECUTIVE COMMITTEE
Composed of 15 Members
ONE FROM EACH OF THE FOLLOWING FIELDS
—AND—
ONE FROM EACH OF THE FOLLOWING ADMINISTRATIVE DEPARTMENTS
Child Experience Material
Projects Type Studies Activities and the like, regardless of subject matter lines
English
Composition English for Foreigners Grammar Language Literature Penmanship Reading Spelling and the like
Foreign Languages
French German Latin Spanish and the like
Health & Physical Education
Gymnastics Personal Science Hygiene Playground Activities Rhythmics Sanitation and the like
Mathematics
Algebra Arithmetic General Math Geometry Numbers Trigonometry and the like
Related Arts
Art Commercial Arts Domestic Arts Drama Industrial Arts Manual Arts Music and the like
Science
Biology Chemistry Elementary Science General Science Nature Study Physics Physiography Physiology & Hygiene and the like
Social Studies
Citizenship Civics Commercial Geography Economics Geography History Safety Thrift and the like
It will be noted that under each of the eight fields certain sub-divisions have for convenience been arbitrarily included.
Elementary Schools Kindergarten Primary Grades Kindergarten to 3
Elementary Schools Intermediate Grades 4 to 6
Junior High Schools
Senior High Schools
Special Schools & Classes
Night Schools
Bureau of Research
In each of these eight fields is an
EXECUTIVE COMMITTEE
consisting of
2 Representatives from grades Kindergarten to 3
2 Representatives from grades 4 to 6
2 Representatives from the Junior High School
2 Representatives from the Senior High School
1 Representative from the Special Schools & Classes
Cooperating with each of the eight Executive Committees are
COMMITTEES ON RESEARCH & DEVELOPMENT
each to consist of
2 Representatives from grades Kindergarten to 3
2 Representatives from grades 4 to 6
5 Representatives from the Junior High School
2 Representatives from the Senior, High School
1 Representative from the Special Schools & Classes
Above Committee weighted for Junior High School. Special Committee adjustments are made when considering other school units.
Working under the direction of the Executive Committees and the Committees on Research and Development in each of the eight fields are
COMMITTEES ON EXPERIMENTATION & PRACTICE
whose members may be drawn from all the teachers, principals, and supervisors of the school system
The Function of these committees is to try out bits of curriculum material and consider special problems assigned by the eight Executive Committees and the Committees on Research and Development, such as:
Bibliographies
Correlations with other Subjects
Grade Placement of Subject Matter
Investigational Literature
Methods of teaching
Objectives
Projects
Specific Outcomes
Subject Matter of Curriculum
Assisted by
SPECIAL COMMITTEES
Appointed as the need arises to consider special problems such as the following
Adapting Buildings to Courses of Study
Administration Classes
Administrative Objectives
Batavia Classes
Credits and Entrance Requirements
Curriculum Organizations
Enrichment Classes
Equipment
Extra-Curricular Activities
Forms & Records
Health Work
Homogeneous Grouping
Individual Differences
Institute Programs
Libraries
Teacher Aid Conferences
Marking Systems
Outcomes
Parents-Teachers Assns
Programs of Studies
Promotion Standards
Relations to Boy Scouts etc.
Retardation & Elimination
Socialization of Curriculum
State Course & Textbook Requirements
Supervised Study
Teacher Qualifications
Teacher Ratings
Teacher Training
Terminology
Tests & Measurements
Textbook Evaluation
Time Distribution
Under-Privileged Children
Teachers' Visiting Days
Visiting Teachers
Visual Education
– NOTE –
These will be weighted in number of members according to the importance of the subject under discussion, in relation to the different departments of the school, e. g. in Teacher Qualifications all divisions of the school system are interested, while in College Entrance Requirements probably only the high school teachers would be interested.
All courses after reaching mimeographed form to be considered by
REVIEWING COMMITTEE
SUCH AS
Reviewing Committee for Validity of Psychology Employed
Reviewing Committee for Conformity to Legal Requirements
Reviewing Committee of Educational Experts
Reviewing Committee of Lay Houston Citizens
Reviewing Committee of Supervisors & Principals
Reviewing Committee of Board of Education

d. The next step will be combining best present practice in Houston with that in other cities in America in mimeographed tryout units.

e. The revision of tryout units and experimentation with other units selected from different bases, e. g., from an analysis of children's needs in Houston, study of educational shortages in Houston, and the like.

For a year prior to the time of the inauguration of the program as well as since the fall of 1925 the teachers have been carefully schooled in general curriculum principles. The school authorities of Houston feel that this approach has many advantages, the chief of which is the fact that they are beginning with their own best practice. They recognize that a tremendous forward step would be taken in our schools if all practice could be lifted to the level of the best practice.

What Library Facilities Are Provided?

Good library facilities are essential to the success of a curriculum revision program. Committees should make use of the research findings already available in the curriculum field. There is probably no easier way to give teachers and principals the right background and a flexible mental attitude in approaching the problem of curriculum revision than by making easily accessible some of the best material already in print.

The truth of these facts has early been accepted by many school systems where the most successful work in curriculum revision has been carried on. Below are listed methods used in typical cities for providing library facilities for course of study committees.

1. *Salient material mimeographed*—In Houston, Texas, mimeographed copies of entire chapters or divisions of books or articles appearing in educational journals, representing significant points of view on curriculum construction, were sent to each school building in sufficient quantities to provide ample reading material for the entire staff. It was thought desirable that all members of the staff should inform themselves by a study of the educational literature most pertinent to the subject of curriculum revision. This material included statements from Bobbitt, Bonser, Charters, Clement, Briggs, Dewey, Glass, Bode, and Snedden—a total of 415 mimeographed sheets. This partially solved the library question.

2. *Curriculum library in superintendent's office*—In Pueblo, Colorado, available material on the curriculum together with various courses of study from other cities are on file at the office of the superintendent of schools for the use of course of study committees. The superintendent writes: "When the work of any course of study committee has proceeded far enough that the need of new textbooks is felt to fit the new course of study outlines, the examination and recommendation of textbooks becomes a part of the function of this course of study committee."

3. *School board purchased curriculum books for each school building*—The school department of Melrose, Massachusetts, purchased sufficient copies of the latest and most outstanding books on curriculum construction so that a set of these books could be assigned to each building.

4. *Public library cooperates*—In Dayton, Ohio, a shelf was set aside in the public library for references on curriculum revision.

How Can Continuity Be Secured and Overlapping Prevented?

Among the plans being tried out to prevent overlapping and at the same time secure continuity are these:

1. The St. Louis plan of curriculum organization calls not only for subject committees but also for general committees in general oversight of the work in each particular field, running from kindergarten through college.
2. In Youngstown, Ohio, the course of study was first worked out by grades, and later a coordinating committee assembled the grade reports and brought about unified results.

Provision for Review of Preliminary Outlines

Usually no one is more dissatisfied with the preliminary draft of a course of study than the committee members themselves. They want it reviewed and tested out. These are some of the ways in which this is done most frequently:

After the material of each course has been read and criticised by the superintendent of schools, it is submitted to an outside authority for review. Then it is mimeographed and placed in the hands of teachers for experimental use for a year. In the meanwhile, the same chairmen, with so far as possible the same committees, revise the preliminary draft by modifying, adding to, and eliminating topics suggested by the teaching corps.

The superintendent of schools, Ashland, Kentucky, writes:

> Course of study committees, composed of teachers and principals, formulate and mimeograph tentative plans concerning the work of each subject and place these in the hands of those who are teaching the subjects, asking them to give all the suggestions they can for improvement. On the basis of these suggestions, we make our first revision. This process is continued until we have built up what we think is an appropriate course.

In Houston, Texas, in addition to those committees whose function is to write the course of study, there are five reviewing committees, whose sole function is to review the work done. First there is a committee composed of supervisors, who criticise the work from the standpoint of an expert in a limited field of instruction. Second, there is a psychology reviewing committee, which sees to it that the new course of study is in harmony with the best psychological theory. The third reviewing group is composed of lay citizens of Houston, who are asked for suggestions relative to what the public wants. There is also a legal reviewing committee which sees to it that the new courses are in conformity with legal requirements; and finally there is a general reviewing committee of educational experts.

In Oakland, California, the report of each course of study committee is submitted to the Council of Supervision. This Council is composed of eleven directors and supervisors. One of its main functions is the supervision of curriculum development. This Council meets for round-table discussion and constructive criticism of each new course of study.

What Help Can Universities and Teacher Training Institutions Give?

The cooperation of schools of education with local school systems in the study and revision of the curriculum is mutually beneficial. Professors of education are brought into vital touch with practical school problems; and local school officers and teachers profit from the theory and guidance of experts.

Local university experts direct curriculum research—Kansas University assigned a member of the English faculty to the School of Education on a half-time basis to conduct research work in the field of secondary school English, under the direction of the local superintendent of schools. Under his leadership also, a small group of graduate students conduct research work and experiments in the field of elementary school English.

Higher institutions supply leadership for local course of study committees—The superintendent of schools, Canon City, Colorado, writes:

> The first thing we did in our program of curriculum revision was to study the question generally. We had as our leader a member of the faculty of the State Teachers College, and one from the Extension Department of the State University.

Three adjoining cities work cooperatively with university specialist—The cities of Warren and Erie, Pennsylvania, and Dunkirk, New York, have entered into an agreement with New York University, under the terms of which certain sums of money are paid. These sums represent tuition fees of local teachers enrolled in a course in the curriculum, conducted by a member of the staff of the School of Education of New York University. This instructor spends at least one day each week during the academic year in each of the cooperating cities. He resides in one of these cities and divides his entire time between them and the city of Jamestown, New York. In the latter city sixty-five teachers are enrolled in a course on the principles of teaching. Heretofore the remoteness of these small cities from colleges and universities had made local programs of study under the leadership of a specialist impossible.

The superintendent of schools of Warren, Pennsylvania, describes the work there as follows:

> The general title of the course is *The Curriculum*. It will run for thirty-two weeks, carrying four semester-hours of university credit for Group I, and four hours of graduate credit for Group II. The board of education has voted $2000 to carry the project for one year, although the plan is laid out as a five-year project.
>
> Group I is composed of eight committees of three teachers each, selected from the first seven grades including the kindergarten.
>
> Each group meets for two hours every week as a class. In addition to this, each section of the group meets with its own chairman, the curriculum specialist, and

> the superintendent, to consider the applications of the work to the various grades and departments.
>
> Cooperation with the towns of Dunkirk and Erie implies exchange of teachers for observation, demonstration, and consultation purposes.

This plan, according to the superintendent of the Warren Schools, is not to be considered as merely another extension course scheme. He writes:

> If the accent were on extension, teacher improvement would carry the emphasis; the teachers ought to be permitted to join the classes if they wished; they ought to pay for their instruction; the weakest teachers, rather than the strongest ought to be encouraged to take the work. We consider this rather with the accent on the school. Consequently, the teachers constituting the working committees are selected from amongst the strongest; and the district foots the bill. The extension credit is part of the teacher's reward for the work she has done for the district.

The Superintendent of Schools of Erie, Pennsylvania, writes:

> Our board of education has appropriated $800. The remaining cost is borne by the sixty teachers taking the course as they receive full university credit for the work.[1] It is our plan to have these sixty trained teachers head committees of teachers, representing the various branches, to work out those things which should be in well-balanced courses of study and eliminate all items which are not essential and have no local application.

The superintendent of schools of Dunkirk, New York, was granted $1000 by his school board to finance the curriculum program in Dunkirk. The curriculum work in Warren and Erie involved little increase in the total school expenditures. The funds which in the past had been devoted to teachers institutes were used in financing the curriculum programs. The state office ruled that providing plans were approved, institute funds could be used for college instruction of teachers.

A series of speakers point the way for local workers—The superintendent of schools, Oshkosh, Wisconsin, writes:

> Four outside speakers addressed general meetings of teachers. These educators did much in pointing the way to the direction the course should take, as well as making detailed suggestions on parts of the work.

University curriculum research bureau analyzes and evaluates present practice—Subscribing to the general principle that the schools of America "must begin where they are, to go where they are going" in their curriculum reconstruction work as well as in any other field, the Bureau of Elementary Curriculum Research, organized at Teachers College July 1st, 1924, has set up for its first task that of carefully analyzing and evaluating present practice.

This bureau is in active charge of two full-time research people who are aided by three assistants. As a general consulting committee twenty five members of the Teachers College faculty, each interested in certain phases of curriculum and course of study construction, were appointed by the Dean at the beginning of the work. A small committee of eight acts in an advisory capacity.

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[1] In addition, the Erie Board of Education grants increases in salary to teachers upon completion of a certain amount of university work.

These two major tasks are being attempted in the years 1925-1927 inclusive:

1. Preparation and evaluation of subject-matter and child experience materials.
2. The preparation of an encyclopedia of curriculum literature for the elementary schools.

In the preparation and evaluation of subject matter and child experience, the bureau is attempting:

First—To select materials from present practice, worthy of evaluation.

Second—A careful analysis of these materials.

Third—An expansion of these materials by such activities as the study of social statistics, study of activity analyses, current criticisms, and the like.

Fourth—An evaluation of these extended lists of materials for curriculum worthwhileness, followed by tryouts and revisions in school situations.

In the preparation of an encyclopedia of curriculum literature for elementary schools, the bureau is gradually collecting all pieces of curriculum literature from 1900 on. There are now on file 14,000 of these. The next task in this field will be the rearrangement of the articles under problems and divisions of subjects, and the third and final task is that of annotating and evaluating under problems for curriculum worthwhileness.

In each of the projects undertaken the bureau is assisted by specially appointed faculty committees, in many cases going outside of the large committee of twenty-five where special subject matter and other aid is required.

It is not the aim of the Bureau of Elementary Curriculum Research to set up a curriculum, but its tasks as those in charge now see them are:

1. To push out the frontiers of knowledge in regard to curriculum problems
2. To unify and correlate the work along curriculum lines now being carried on by the different instructors in Teachers College
3. To make available to those in the field building blocks of curriculum construction which can be adapted and utilized in local programs by communities of varying size.

Case History of Curriculum Revision Program in a Small City

The superintendent of schools of Darby, Pennsylvania, writes that curriculum revision in Darby was started by having the whole teaching force of fifty-seven teachers use two hours per week regularly either in general sessions or committee meetings. Three quarters of an hour of this time was deducted from school time. The remainder of the work was done after school hours. In addition to these regular two hours, most teachers spent considerable time in study or sub-committee meetings.

The work proceeded as follows:

1. Each teacher was given a list of abilities developed by Bobbitt and the teachers of Los Angeles.

2. After preliminary meetings for explanation of the project by the superintendent of schools and a representative from the local State University, who acted as an adviser, the teachers were divided into ten committees to study Bobbitt's ten classes of abilities, namely:

1. Social intercommunication, mainly language
2. The development and maintenance of one's physical powers
3. Unspecialized practical labors
4. The labors of one's calling
5. The activities of the efficient citizen
6. Activities involved in one's general social relationships and behavior
7. Leisure occupations, recreations, amusements
8. Development and maintenance of one's mental efficiency
9. Parental activities, the upbringing of children, the maintenance of home life.[1]

The purpose was to make a study of the community of Darby, Pennsylvania, and using the Los Angeles report as a basis, to make a list of the abilities required by the people of Darby.

3. Several weeks were devoted to this investigation which yielded a fair approximation of the abilities useful to the people of the city, and which gave the Darby teachers a new and broadened idea of the purposes of education.

4. The committees then reduced these general abilities to working units. Nine subject committees were next organized as follows: English, mathematics, languages, primary music, art, social studies, science, community mechanics, and commercial training.

5. Some of the above committees formed sub-committees for the consideration of grade subjects, but in nearly all cases the organization was vertical rather than horizontal. These committees worked out general aims for each subject which were reduced to working units.

6. The working-unit aims were compared with the working-unit abilities, by having each ability in the whole ten groups canvassed by each subject committee to find just which aim took care of it.

7. Teachers marked each ability as having (a) a major contribution made toward developing it by a certain numbered aim, (b) a minor contribution made toward its development by a certain numbered aim, or (c) by having no contribution made toward its development by the subject in question.

8. The result of this comparison was mimeographed so that each committee was able to see what subject was likely to duplicate work of another,

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[1] See: Bobbitt. Franklin, *Curriculum Making in Los Angeles,* Supplementary Educational Monographs. No. 20, University of Chicago, June, 1922.

and what useful abilities were not being developed through any group of subjects then in use.

9. The next step was again to compare abilities and aims to find out which aims as formulated by the committees were most useful in developing abilities and which ones attained no useful purpose.

The organization, for the next year, will be in the form of subject committees, probably sub-divided to care for different grades. In place of one general adviser, there will be specialists in various subjects, working with the local committees, formulating materials to be used and selecting methods to be employed in accomplishing the aims that have been agreed upon.

Case History of Curriculum Revision Program in Dayton, Ohio

A. *Curriculum Revision program, Dayton, Ohio—elementary subjects, grades I-IV*—Steps in organization of Curriculum Revision:

I. Selection of thirty-five people in each of the first four elementary grades best qualified to help in curriculum revision by the primary supervisor.

Using files which include an individual record sheet for each teacher, showing the amount and character of his professional training, the primary supervisor selected those people whose record showed the best training and accomplishment.

II. General meeting of the one hundred forty people who had been invited to take part in curriculum revision.

Following a brief general discussion of the reasons for revising the Dayton course of study, the aims to be accomplished, and a tentative plan of procedure, those present divided into four groups according to grade interest under the leadership of a chairman. Each person present left with the chairman of his group a slip of paper on which he had written his name and the subject in which he was most interested.

III. These slips were sorted according to subject preferences. Grade chairmen selected their subject chairmen. Each subject chairman had as members of his committee those who had expressed a preference for his subject. The following subject committees were organized: social studies (included: geography, history, civics, and nature study), arithmetic, reading, and English composition.

IV. Each committee set to work to gather material relating to its particular subject.

V. Each subject committee met every week after school on a day that was most convenient for the group. The meeting place was either in the office of the primary supervisor or in one of the classrooms. Each committee member felt it his duty to bring in material and have a voice in the discussion.

VI. As soon as one subject committee had a tentative report ready, it met with the entire grade group. Changes that were being made in the elementary course of study were discussed. Each person present had opportunity to express approval or disapproval.

VII. The first grade group met with the second grade group; the second grade group with the third; the third with the fourth, etc.

VIII. As discussion arose in subject group meetings, the need of correlation of different subjects was felt. For instance, it seemed advisable to correlate art with history and geography, rather than develop it entirely as an isolated subject.

At the request of committee chairmen, the superintendent of schools called a meeting of all subject committees together with the supervisors of special subjects. The superintendent presided at this meeting, in which teachers freely expressed their views as to how the subjects of the first four grades could be better correlated.

IX. Committees continued working for a year following their own plans but emphasizing correlation of subject matter. At the end of the school year, each committee turned in to the primary supervisor a manuscript course of study with lists of helps for both children and teachers.

X. The manuscript courses were edited by the primary supervisor and then mimeographed. When school opened every teacher of grades one to four was provided with a copy of the new tentative course of study.

XI. The course of study was tried out in all the elementary schools of Dayton. Grade committees and all the teachers of a particular grade met with the primary supervisor monthly and discussed the weak spots in the new course and ways of improvement.

XII. Subject committees met monthly to plan revision of the tentative course of study. The revised course was read and discussed by the teachers of the entire four grades, and unanimously approved before the final copy was edited.

XIII. All teachers in grades one to four saw demonstrations of model lessons put on by the primary supervisor or one of the local teachers—so that every teacher got an idea of what the curriculum revision committees were working toward.

XIV. At the end of the year, the revised copy of the course of study was unanimously accepted by the entire teaching corps of grades one to four.

B. *Curriculum Revision program, Dayton, Ohio—social studies, mathematics, and language, grades V-VIII*—

Steps in organization of Curriculum Revision:

I. Selection of an assistant principal as chairman of Curriculum Revision program for Grades 5-8.

II. Organization of four large committees; one for each of the four grades, with approximately 25 members on each committee.

III. General meeting of all four committees with newly appointed chairmen presiding.

The purpose of this meeting was to acquaint the committees with the principles underlying the plan of curriculum revision; the child was to be considered rather than the subject; and the social value of the subject was to be emphasized.

The committee members for each grade elected a grade chairman.

Each committee member left with the chairman the name of the subject on which he felt best fitted to work; both first and second choices were listed.

IV. The general chairman met with each grade chairman and made up from these lists subject committees for social studies, mathematics and language—thus forming twelve sub-committees.

V. General chairman organized three compiling committees, one for mathematics, one for social studies, and one for language. Each compiling committee consisted of the four grade subject chairmen, one principal and one other person. The purpose of each compiling committee was:

1. To see that the work was correctly placed in the grades.
2. To prevent overlapping in content.
3. To see that the content was progressively difficult for each grade.

This committee also acted as an advisory and reviewing committee.

VI. General chairman met with entire personnel of mathematics committees for all four grades in a general meeting. The purpose was: To discuss the general principles that should govern course of study revision in this particular subject.

The first business of the committee following this general discussion was to work out the aims and objectives of the teaching of mathematics. The general chairman aided by supplying references on general curriculum problems and later lists of references dealing with the subject of mathematics. A shelf was set aside in the public library for references on curriculum revision.

Following this, there was an attempt to put on paper an outline as to what the content should be in mathematics for each grade. The committee prepared typewritten sheets for all teachers in each grade, showing: (1) tentative statement of objectives for mathematics, (2) suggested content, and (3) some statements of method.

A similar procedure was carried out for social studies and language.

VII. Two curriculum specialists from a nearby university were each invited to give two lectures on curriculum construction before all the local course of study committees. These discussions were built around the course of study being compiled in Dayton.

VIII. The superintendent of schools, with the aid of the general chairman of curriculum revision, appointed an editing committee of six classroom teachers, outstanding for their work in English. These people had not worked with the committees, and were chosen because they were unfamiliar with the content, so that they would detect obscurities in the material.

IX. Distribution of multigraphed copies of tentative courses to classroom teachers in each grade.

X. Course of study committees, sixteen in all, one in language for each of the four grades, one in spelling, one in mathematics, and one in social studies began work on formulating tests for testing subject matter in new courses of study. These tests were modeled after standardized tests. They were of three general types: The "best answer," the "false and true statement," and the "completion." This work was carried on under the direction of the general chairman of curriculum revision. Tests were printed after the compiling committee had reviewed them.

XI. Diagnostic tests were given to pupils by classroom teachers, according to printed instructions of each subject-course committee. Each teacher corrected his own tests by the use of a stencil. Results of tests were summarized and analyzed by the general chairman with the aid of the subject committees.

XII. A general meeting of the teachers by grades was held to discuss the method of testing, and the results revealed by the tests. Criticisms such as these were made: The class teachers felt that the topics were not specific enough. The principals felt the course was too voluminous for their ready perusal. To meet the needs of the principals it was decided to get out a summary volume, which was printed the following summer; and also it was decided to work toward a much more complete volume for the class teachers.

XIII. Another series of tests was given. Reports of these were made by the general chairman to the superintendent who discussed them at a principals' meeting. The aim of the tests was to show the weak spots in the new course of study, and to show the teachers and the committee what points needed more emphasis in teaching.

XIV. The sixteen subject committees also served as textbook committees; in this way, books were selected which fitted the new course of study.

Case History of Curriculum Revision Program in Oakland, California

How Oakland, California, makes its curriculum is described in the May 21, 1925, issue of the Bulletin of the Superintendent of Schools. The organization of the work and the results accomplished are briefly reviewed here.

One thousand classroom teachers and principals help prepare 71 course of study bulletins—Course of study bulletins for all classes from the kindergarten through the senior high school, including Smith-Hughes, Continuation and Part-time Classes have been issued through the efforts of Oakland's local course of study committees since January, 1921. Seventy-one course of study bulletins, representing the work of almost 1000 classroom teachers and principals had been issued up to May, 1925. At that time approximately 500 Oakland teachers and principals were at work in further development of the curriculum building program. During the present year 78 committees are at work either preparing new courses, or studying the operation of present courses to see whether or not revision is desirable.

According to the superintendent of the Oakland public schools, "These committees represent the functioning of the teaching body in developing and supplying courses of study and in cooperating with the executive offices in carrying out certain administrative work of the schools. . . . Every teacher, principal or executive who has a contribution to make has opportunity to offer same as a service to the children and to the schools. All teachers, principals and executives are invited to criticise constructively the curriculum and its supervision and administration and to offer suggestions at all times for its improvement."

Steps in the organization of a course of study in Oakland, California—These may be briefly outlined as follows:

1. Committee members are appointed by the superintendent of schools.

2. Each committee meets, discusses its problem, enlists the aid of the supervisor concerned or any other available expert.

3. Material is introduced into the classroom for experimental use.

4. A report is developed which follows an accepted standard outline as to form of organization, and which represents the best thought of the committee in its content.

5. Recommendations included in each course relative to provisions which may be made to meet the varying needs and capacities of pupils in three special groups:

> 1. Those pupils who have superior academic ability and need enriched material, abundant project work, and a limited amount of acceleration;
> 2. Those pupils who are slow to learn and need more time to cover a simplified curriculum; and
> 3. Those pupils who are so far below standard in power to learn that they cannot follow a definite course of study, but who can be trained in usual activities which develop what power they have.

6. Report of each subject committee is submitted to the council of supervision for consideration. After a critical analysis by this council, each report is either sent back for further development, to the committee which prepared it, or it is passed on to the superintendent's council with minor revisions and with recommendation for printing or mimeographing.

7. The superintendent's council, in its administrative capacity, passes on the report. When it is accepted, the task is that of editing the report and having it printed.

8. Each course is tested out to see how it actually functions in the school. If it proves not to meet the needs which the committee hoped it would, once more it goes through committee action and follows the procedure described.

What Relation Shall a State Department Have to the Drafting of a Course of Study?

The relation which a state department of education shall have to the drafting of a course of study depends upon such factors as these: (1) whether or not trained superintendents and supervisors are employed throughout the state, (2) training and experience of majority of teachers in the state, (3) the degree to which counties and towns have progressed in developing local courses of study, and (4) resources of state office in staff and equipment.

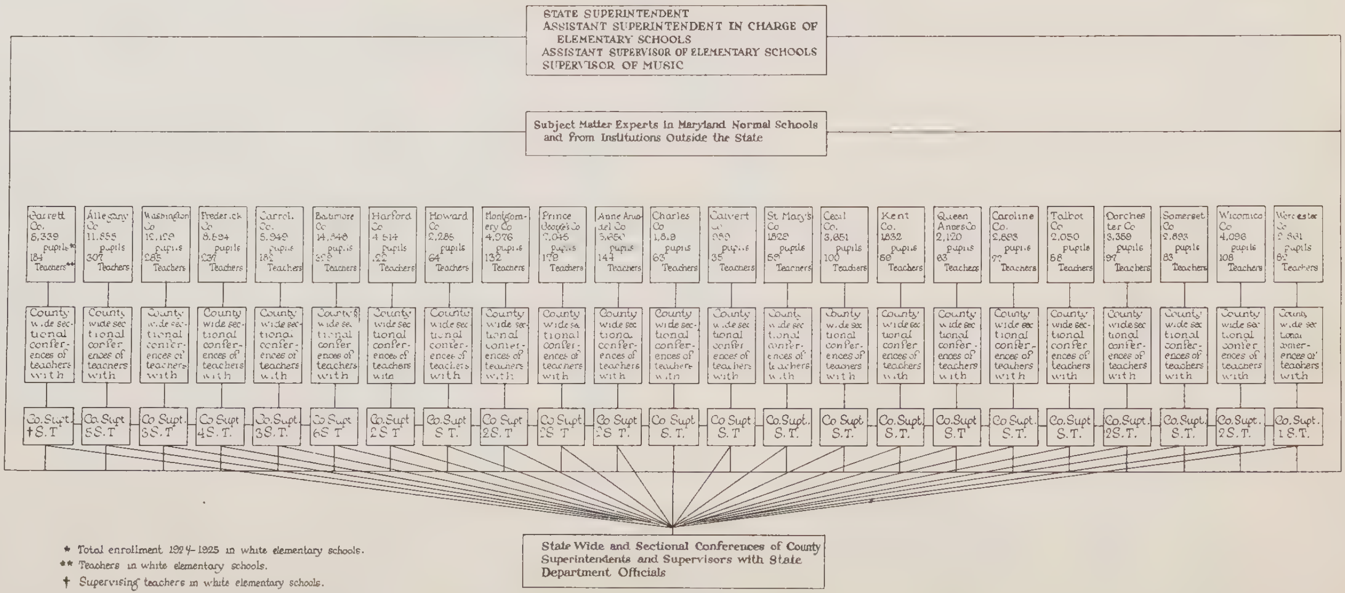
Maryland state department sets goals but provides no state course—Superintendent Cook of Maryland points out that a state department of education has no laboratory to test out a course of study. Therefore, in his judgment, there should not be a state course. The state, according to Superintendent Cook, should only set up certain goals against which local units such as counties may check their own courses of study. Chart II, on page 48, shows organization for curriculum construction in the twenty-three counties of Maryland. This state has a well-developed county unit system with forty-seven supervising teachers—from one to six in each county. In Maryland the thought is that supervision is another means of equalizing educational opportunity. The state pays two-thirds of the salaries of all county superintendents and supervisors. Furthermore, rural teachers are paid a bonus over and above urban teachers. For this reason Maryland can hold up high professional standards in all its twenty-three counties. With this plan of organization Superintendent Cook states: "The making of a course of study is the most important instrument of supervision. We do not want a state course of study in Maryland; but we do want twenty-three county courses." At the present time each of the counties of Maryland is in a different stage of curriculum revision. As shown in Chart II, on page 48, the state department helps and encourages the counties through conferences. One sectional conference and two state-wide conferences are held each year for superintendents and supervisors. Each county has not less than four group meetings, part time of which is devoted to the topic of course of study revision. At these meetings, mimeographed course of study material is provided for discussion.

In its statements of goals in arithmetic, reading, etc., the Maryland state department seeks to get the best course of study material from the best practice in the state, and put it in such form that the entire state can use it. After it has been tested out, criticisms and suggestions are sent to the state office, and in the light of these, revision of the goals is made. The result is a product of cooperative effort. These statements of goals are suggestive for each county in the development of its own course of study.

The normal training schools of Maryland use the bulletins prepared by the state department. This insures familiarity with their contents on

CHART II

ORGANIZATION FOR CURRICULUM CONSTRUCTION IN THE 23 COUNTIES OF MARYLAND
(FOR WHITE ELEMENTARY SCHOOLS)


STATE SUPERINTENDENT
ASSISTANT SUPERINTENDENT IN CHARGE OF ELEMENTARY SCHOOLS
ASSISTANT SUPERVISOR OF ELEMENTARY SCHOOLS
SUPERVISOR OF MUSIC
Subject Matter Experts in Maryland Normal Schools and from Institutions Outside the State
Garrett Co. 6,339 pupils* 184 Teachers**
Allegany Co 11,855 pupils 307 Teachers
Washington Co 12,129 pupils 285 Teachers
Frederick Co 8,694 pupils 237 Teachers
Carroll Co. 5,949 pupils 182 Teachers
Baltimore Co 14,848 pupils 379 Teachers
Harford Co 4,514 pupils 122 Teachers
Howard Co 2,285 pupils 64 Teachers
Montgomery Co 4,976 pupils 132 Teachers
Prince George's Co 7,045 pupils 179 Teachers
Anne Arundel Co 5,650 pupils 147 Teachers
Charles Co 1,819 pupils 63 Teachers
Calvert Co 989 pupils 35 Teachers
St. Mary's Co 1829 pupils 59 Teachers
Cecil Co. 3,651 pupils 100 Teachers
Kent Co. 1832 pupils 59 Teachers
Queen Anne's Co 2,120 pupils 63 Teachers
Caroline Co. 2,893 pupils 77 Teachers
Talbot Co 2,050 pupils 58 Teachers
Dorchester Co 3,359 pupils 97 Teachers
Somerset Co 2,893 pupils 83 Teachers
Wicomico Co 4,096 pupils 108 Teachers
Worcester Co 2,831 pupils 82 Teachers
County wide sectional conferences of teachers with
County§ wide sectional conferences of teachers with
Co. Supt. †S.T.
Co. Supt. 5S.T.
Co. Supt. 3S.T.
Co. Supt. 4S.T.
Co. Supt. 3S.T.
Co. Supt. 6S.T.
Co. Supt. 2S.T.
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Co. Supt. 2S.T.
Co. Supt. S.T.
Co. Supt. 2S.T.
Co. Supt. 1S.T.
State Wide and Sectional Conferences of County Superintendents and Supervisors with State Department Officials

* Total enrollment 1924-1925 in white elementary schools.

** Teachers in white elementary schools.

† Supervising teachers in white elementary schools.

§ Baltimore County has a two weeks institute at the beginning of each year.

the part of young teachers. Occasionally certain suggestive units of subject-matter are prepared by one of the specialists of the normal schools. These are published by the state department and as many copies as are desired are furnished each county.

Since all the teachers in each county in Maryland are studying the problem of curriculum building, they are growing up to the courses which they are going to produce. Fortunately, a course of study prepared by teachers is in use even before it is in print—it is a living thing. A brief statement is given below of how one of the leading counties in Maryland is organized for curriculum revision.

Baltimore County, Maryland, organized for curriculum revision with one hundred percent teacher participation—Age-grade progress surveys and the testing of every child in Baltimore County in reading and arithmetic were included in the preparatory work of revising the Baltimore County course of study. Following these surveys, each supervisor called meetings of teachers in each of the elementary grades.

Suburban teachers were asked to come prepared to discuss these questions: What two or three subjects in our course of study give you the least help in your teaching? Select one of these subjects and outline briefly in written form:

1. How the subject fails to help you.
2. Your suggestions as to how this subject might be revised in order that it may be more helpful to you.

In the meetings of rural teachers, these questions were discussed:

1. What is the teacher's responsibility in the revision of a course of study?
2. What three subjects in our curriculum have been given sufficient thought to justify selection for immediate detailed revision?
3. What definite suggestions do you offer regarding: (a) Procedure for revision, (b) modification of content, and (c) activities as factors in the curriculum?

The institute meetings of the year were devoted to the discussion of professionalized subject-matter which would supplement the old course of study. This material was mimeographed and distributed to all the teachers. Then as supervisors visited classrooms, they noted how it was being used.

At each regular grade and demonstration meeting, course of study improvement was discussed. Teachers definitely pointed out weak spots and illustrated how they had sought to strengthen the course. The six supervisors of the county studied the needs of the schools in the light of present-day conditions and brought together suggestions for revision from all the classroom teachers and from a group of seventeen who had been selected to work with the supervisors in building a tentative outline for a new course in reading and arithmetic. Course of study committees, consisting of three teachers from each of the seven elementary grades and representing the schools of the county worked intensively on one subject at a time.

During the summer vacation the supervisors, working individually and as a group, organized large charts entitled, *A Working Basis for a Revision of the Course of Study*. These charts included suggested pupil activities and classroom procedure for each elementary grade. Every teacher was asked to test out this material and make suggestions for its improvement to the supervisors at the time of their visitation. Grade meetings were held. Teachers told what topics in the tentative course they desired to have left in, which ones they wanted taken out. They also suggested additional topics. This work of united study, compilation of new material, discussion of best practice, testing out of tentative outlines, and revision in the light of experience and increased knowledge has proceeded on a county-wide basis for two years. The result is a course of study in reading and arithmetic in which each of the 350 elementary teachers of Baltimore County sees the best of his own thinking reflected.

All of the normal schools of the state included in Connecticut curriculum building program [1]—The four normal schools of Connecticut are under the control of the state board of education. Two years ago a program of curriculum revision for these four schools was undertaken. Each normal school was represented on subject committees whose job was to prepare courses for the normal schools. All normal school committees, approximately twenty in all, worked under the direction of one individual who coordinated the work of the various committees. As these committees worked, the need for revision of training school courses became apparent. The thought was that courses worked out for the training schools could also be used in elementary schools throughout the state. Furthermore, by having these courses used in the training schools, the teachers graduating from the normal schools would be familiar with the courses and would be trained in their use.

Representative committees were chosen from teachers throughout the state who had done outstanding work in their fields. The Connecticut state supervisor of elementary education appointed committees of three or four members for each elementary school subject. He acted as general chairman of these committees. A parallel organization of small committees for each elementary school subject was created in the Division of Rural Education. The elementary school courses of study were reviewed by representatives of the state board of education including the Commissioner.

The supervisor of secondary education took charge of curriculum revision in secondary schools and appointed committees for each secondary school subject. The personnel of these committees included superintendents of schools, principals of elementary and secondary schools, normal school principals, and classroom teachers. While committee members were selected because of their outstanding accomplishments, an effort was made to have the membership representative of the entire state.

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[1] Only a brief description of the Connecticut state program of curriculum revision is given here. A series of articles dealing with the program in detail will be published during the coming year in the *Elementary School Journal*.

Each course of study committee varying in size from three to six members met at such place as was most convenient for the majority. Their expenses were paid by the state department. Meetings were held as often as twice a month for approximately six months. In some cases, these committees met during school time—in other cases on Saturday or after school hours. A representative of the state department of education met with each committee.

Representatives of the state department of education and state normal schools acted as reviewing committee for the normal school courses of study. Contributions of the different elementary school committees were reviewed by a special reviewing committee of three representatives of the state board.

Connecticut state courses of study are not mandatory. After the state courses of study were printed, sample copies were sent to each school system in the state together with requisition blanks. The state department furnished free of charge as many copies as were desired. Within a short time 158 out of the 169 towns of Connecticut were using these state courses of study. The training schools connected with the four normal schools use the state courses exclusively.

These five means were employed by the state to secure the adoption, application and interpretation of the courses of study developed by state committees:

1. State supervisors in their visitation with individual teachers and in group conferences discussed the new courses.

2. Five conferences of superintendents of schools were held in five different cities. In this way every superintendent in the state was reached. The reasons, principles, and methods involved in the construction of the state courses were explained by representatives of the State Office.

3. Within the six months following the issuing of the state courses of study, twenty teachers' institutes were held under the direction of the Rural and Elementary Education Divisions of the State Office. At these meetings, emphasis was placed upon the principles, purposes, and methods involved in the new courses.

Such of these meetings as were held under the direction of the Elementary School Division, were held solely in response to specific requests from school authorities. The rural school institutes were held as a matter of custom, and interpretation of the new state courses of study was made the major topic. The schools of 147 towns and cities were closed to enable teachers to attend. As a result of these conferences and institutes practically all of the towns in the state of Connecticut have requisitioned for the courses to the amount of one copy of each course for each teacher.

4. New course of study bulletins formed the basis of all summer school training for teachers. Summer school attendance of approximately six weeks is required of all beginning elementary teachers in Connecticut who are not normal school graduates. The summer school is run by the state

board of education. It is an integral part of the training of teachers in service. Following their issuance, the new state courses of study formed the basis of the summer school work for all teachers whom the law required to attend. They also formed the basis for optional courses which were offered to those teachers who were normal school graduates but who wanted additional training.

5. The use of the state courses in the training schools results in all graduates who go out to teach, being thoroughly grounded in state elementary courses. Throughout all the towns of Connecticut, the courses of study are used in one of the following ways:

a. All state courses are followed with little or no modification.
b. Some of the courses are used with little or no modification.
c. Some are used with considerable modification, particularly in towns now effecting a transition from old courses to those of the state board of education.
d. In some towns the state courses are being studied critically for the purpose of revising the local courses.

The state supervisor of elementary instruction reports that the greatest value of the state courses of study from the standpoint of the State Division of Elementary Education is that they provide certain definite standards and criteria of teaching that are serviceable in appraising the quality of instruction.

A marked influence of the new courses of study has been a development of unity of purpose and understanding in the elementary schools of the whole state. It has brought about a degree of unity in educational thinking, without uniformity.

One edition of the Connecticut state courses of study was printed with every other page blank. As teachers make suggestions to supervisors as to the weaknesses of certain portions of any course, or ways in which it could be improved, they are recorded on these blank pages. The supervisors bring copies to the state department. Here refinements and further developments of certain topics are planned to make the courses more helpful to teachers.

Classroom teachers and normal school representatives included in all New York State elementary course of study committees—In the state of New York, normal schools are coming more and more to be extension centers. Their intimate touch with the teachers of the state, in addition to the special training of their faculties gives them large insight in the problem of preparing syllabi in the various school subjects. Classroom teachers are invited to serve because they have a special contribution to make. Furthermore, the finest type of professional training in service, according to George M. Wiley, assistant commissioner for elementary education in New York, is working on course of study problems. At the present time elementary school committees are at work planning state syllabi in drawing, industrial arts, history, geography and arithmetic. The state elementary courses, however, are purely suggestive; local school systems may use them or not. This same rule applies to the state preliminary examinations for entrance to high school in cities or villages over 4500 population employing a superintendent of schools. This means that every city and village is free to develop its own elementary courses of study and to carry forward constructive experimentation. The Board of Regents, through the State Department of Education attempts to give local communities every possible assistance through syllabi which may form the outlines to be followed in the school program and also through the preliminary examinations in part or in whole as measures of achievement for these levels of school work. In discussing this flexibility in organization of work in higher elementary grades, Doctor Wiley writes:

> The rapidly growing interest in the development of intermediate schools necessitates larger initiative on the part of the local community and a differentiation of work in the school program not only between cities or communities but often times between schools in the same city. It is clear to the layman that a school in a thriving industrial community may offer quite a different program in many respects than a school of the same grade in an agricultural community. This does not mean that there will necessarily be any difference in the general subjects, but that the electives in such fields as industrial arts and often times even the content material in such subjects as English may vary considerably. For obvious reasons, local school authorities must have every opportunity for initiative in such matters.

In rural sections, where supervisory help is limited, state syllabi are used as direct guides. To help the rural teachers of New York, a state committee is at work, taking the principles on which the longer syllabi are based, and making one single 200-page booklet. This will contain suggestions, illustrative lessons, etc., developed so as to be particularly helpful to rural teachers. The committee working on this booklet consists of: One principal of a normal school located in a rural community, two district rural superintendents of schools, two training-class teachers, and two one-room rural teachers. All traveling expenses of this committee are met by the state. As a rule committee meetings are on Friday evening, followed by an all day session on Saturday.

The New York State Department also helps rural school systems in their curricular problems through regional conferences of superintendents and teachers. The district rural superintendents frequently hold small group conferences by towns. Observation lessons and discussion periods are provided. The State Measurement Bureau, which does most of its work on the initiative of local communities, aids in the planning of state syllabi by discovering local needs.

For the secondary schools of New York State the Regents Examination System prevails as a means of maintaining minimum standards and supervising the work of the secondary schools. The state department of education prepares syllabi in the secondary subjects which are used in the schools of the state as minimum essentials. Sufficient material is presented so that some choice is possible.

Cities which have their own local secondary school syllabi, which have been submitted to the state department for criticism and approval, in subjects for which no state syllabi are provided, may submit their own examination questions in these subjects to the state department. State supervisors of these subjects criticize the examination questions as to form and content. The revised questions are accepted as the equivalent of a regent's examination.

State syllabi in commercial studies and general science have recently been issued, and committees are now at work on syllabi in physics and chemistry. Effort is made to have all interests and sections of the state represented by people selected because of their outstanding accomplishment. Course of study committees work on their own time. The state department meets their traveling expenses when committee meetings are held. After a syllabus is prepared it has to be approved and accepted by the state board of education.

California state department of education surveys the elementary school curriculum—A thorough-going research study financed by a grant from the Commonwealth Fund of New York is underway in California with a view to: (a) the reorganization of the subjects of study required by law to be taught in the elementary schools of the state; (b) the elimination of non-essentials in all subjects; (c) the regrading of subject-matter in all subjects according to the capabilities of pupils; and (d) the possibility of reducing the time for certain groups of pupils.[1]

New Jersey names curriculum revision as its major educational interest of the present year—The New Jersey State Teachers' Association in its 1925 report of educational progress[2], shows that a considerable amount of activity in curriculum construction and revision is going on in New Jersey, including work by state, county, city and town. The state department has recently issued syllabi in the social sciences and in health in the secondary field, and discussions of minimum achievements in English, arithmetic and nature study in the elementary school.

Lack of space prevents the inclusion of statements relative to the curriculum programs now in progress in Massachusetts, Michigan, Montana, Missouri and in many other state departments exercising leadership in this field.

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[1] For a more detailed description of the California curriculum program see: *The Sierra Educational News* for November, 1924.

[2] This report is included in the *Education Bulletin* of the New Jersey State Department of Education for October, 1925, p. 131-134.

PART III

Reports of National Subject Committees

INTRODUCTION TO PART III

EACH CHAPTER in Part III is a report of a national subject committee. Each committee has set forth such materials in a particular subject as it deemed would be most helpful to local committees working on curriculum revision. These include topics such as: Statements of trends as to current practice, findings of research, statements of general aims and objectives, specific aims for each grade, suggestive pupil activities for the realization of these aims, standards of achievement, suggestions as to sources of material, bibliographies and problems for further research and experimentation.

Since research has proceeded much further in some subjects than in others, it was impractical for any two committees to follow exactly the same outline. To illustrate, in penmanship research has shown that a speed of 70 letters per minute and a quality of 60 on the Ayre's Scale is a satisfactory standard for a sixth grade pupil, as well as for average business and social demands. In spelling, research covering millions of running words has made it possible to list the three thousand words most frequently used in correspondence. Equally definite research findings do not exist in the field of nature study or the social sciences. Hence each subject committee had to start on a different basis. For example, in nature study and elementary science, a subject in which there is wide diversity as to practice and indefiniteness as to outcomes, the committee agreed that its greatest contribution would be a tentative and detailed statement of aims and objectives together with a suggestive list of pupil activities carefully numbered to show to what aims they were related, and suggestions as to sources of curriculum material. This involved the pooling of effort of an entire school system, and the criticism of its preliminary outlines by science teachers throughout the country.

This report differs widely from the one on Health and Physical Education. It happens that in the latter subject less than a year ago, a joint committee of the American Medical Association and the National Education Association prepared a detailed and suggestive course of study, based on the findings of research and the consensus of expert opinion. It was not the purpose of the Committee on Health and Physical Education of the Commission on the Curriculum in this Yearbook to duplicate the recent work of the former joint committee. Instead, the contribution which it has sought to make is a careful statement of problems which face each local community in building its own course of study in health and physical education. The setting up of these problems shows what research must be undertaken before a really scientific course can be built. This contribution is much needed in this field.

The Committee on Character Education has made a survey of public school activities which are best designed to promote the development of good character. By presenting the best current practice in individual schools, the committee hopes to make this universal—also to make it the starting point for still better practice.

While some will no doubt question statements of certain committees, in the experience and judgment of these committees the material tentatively presented is rich in suggestions. It is submitted for criticism and study. The short time in which committees had to work and the limited space for each report in the Yearbook made an exhaustive treatment of any one subject impossible.

Other subject committees, in addition to those presenting reports in this Yearbook, are at work in cooperation with the Commission on the Curriculum. Some of them have undertaken extensive programs and will have valuable reports to make at a later date.

The 1926 Yearbook of the Department of Superintendence is in harmony with the nation-wide movement of the National Education Association for getting "the entire profession at work on its problems." If it proves helpful to local course of study committees its purpose will have been fulfilled

CHAPTER IV

Elementary Science and Nature Study

Frank W. Ballou, *Chairman,* Superintendent of Schools, Washington, D. C.

HOW THE COMMITTEE *on curriculum revision in nature study and elementary science was organized and carried on its work*—In preparation for the work of curriculum revision in nature study and elementary science for the kindergarten and first six grades, seventy-four elementary science courses were reviewed and evaluated. Charts were made giving abstracts of twenty representative courses.

Sources of elementary science material in Washington, D. C., were investigated. It was found that the Library of Congress, the Public Library and the Libraries of the United States Bureau of Education and the Department of Agriculture all contained much helpful material. Arrangements were made with the Public Library for the preparation of an annotated bibliography of books on Nature Study and Elementary Science, General Science, Methods of Teaching these subjects, and Curriculum Making. These books were placed in a section of the Library where committee members were admitted at all times.

The working committee in Washington, D. C., was appointed by the superintendent of schools and held its first meeting October 5, 1925. The personnel of this committee is as follows:

Dr. F. W. Ballou, Superintendent of Schools, Chairman.
Mrs. E. K. Peeples, in charge of Nature Study Corps, Divisions I-IX, Vice-Chairman.
Mr. P. J. Rayford, in charge of Nature Study Corps, Divisions X-XIII, Vice-Chairman.
Miss L. M. Allen, grade 2, Mott School, Division X-XI.
Miss A. A. Backus, grade 5, Curtis School, Division I.
Miss E. M. Baltuell, grade 6, Smallwood School, Division VIII.
Miss G. L. Burke, Kindergarten, Briggs School, Division X-XI.
Miss S. F. Clokey, grade 6, Adams School, Division IV.
Mrs. F. R. Dorsey, grade 3, Syphax School, Division XIII.
Miss F. M. Fulton, grade 3, Blair School, Division VI.
Miss H. F. Gillem, grade 6, Garrison School, Division X-XI.
Miss N. C. Harrington, grade 2, Reservoir School, Division I.
Mrs. M. J. Hawkins, Nature Study Corps, Divisions X to XIII.
Miss D. J. Kemble, Nature Study Corps, Division I to IX.
Miss Elsa Lohman, grade 1, Ludlow School, Division VI.
Miss M. K. McCauley, grade 3, Towers School, Division VII.
Miss I. R. Meloy, Kindergarten, Brightwood Park School, Division III.
Mr. B. W. Murch, Supervising Principal, Division I.
Miss P. L. Patterson, grade 2, Ludlow School, Division VI.
Mrs. I. M. Pearson, grade 4, Cleveland School, Division X-XI.
Mrs. I. I. Ruediger, grade 6, Eaton School, Division I.
Miss A. M. Spender, grade 1, Banneker School, Division XIII.
Miss M. Standiford, grade 4, H. D. Cooke School, Division III.
Miss Augusta Swan, Kindergarten Principal, Monroe School, Division V.
Mrs. G. C. Turner, grade 5, New Bell School, Division XIII.
Miss L. W. Wilkinson, Nature Study Corps, Divisions I to IX.

The work of the committee was organized and directed by Mrs. E. K. Peeples who also prepared the greater part of this report.

On invitation of Superintendent Ballou the following specialists became advisors to the local working committee:

- DR. PAUL BARTSCH, Smithsonian Institution, Washington, D. C.
- DR. OTIS CALDWELL, Lincoln School, Teachers College, Columbia University.
- DR. L. C. CORBETT, Bureau of Plant Industry, Department of Agriculture.
- DR. PERCY L. RICKER, Assistant Botanist, Bureau of Plant Industry, U. S. Department of Agriculture.
- DR. E. H. SHINN, Chief Specialist in Agricultural Education, Division of Agricultural Instruction, U. S. Department of Agriculture.
- DR. HERBERT A. SMITH, Assistant Forester, U. S. Forest Service, U. S. Department of Agriculture.

A letter indicating the nature of the work undertaken and asking cooperation was sent October 8, 1925, to all school systems enrolled in the Cooperative Plan of Curriculum Revision, which had expressed special interest in the revision of the course in nature study and elementary science. These included fourteen city school systems, one county and one state school system, and three institutions of higher learning. A letter was also sent to twenty-seven city school systems enrolled in the Cooperative Plan which had expressed an interest in social science; also to eighty-eight city, two county, and nine state school systems, and five institutions of higher learning, which were interested in curriculum revision, but had indicated no preference for any particular subject.

Two questionnaires, one on October 12th and another on October 20th, were sent to each of the above school systems, asking for statements of current practice relative to their teaching of elementary science and nature study. Statements of aims and objectives developed by the local committee were also sent to these cooperating school systems, asking for their review and criticism.

A chart of quantitative objectives for elementary science and nature study and a partial statement of pupil activities were sent November 12th, 1925, to a selected group of cooperating school systems, advisers, and specialists.

To those who have sent material of any kind the committee desires to express its appreciation. Within the limits of this report it has not been found possible to include all such material nor even reference to it.

The report of the working committee when completed was reviewed by a committee made up of Chairman Ballou and the seven assistant superintendents of schools in Washington, D. C.

Prefatory statement—In preparing this report the committee has made no effort to present the beauty or fascination of the subject of elementary science and nature study. Popular presentations have been made in the past often and well.

The committee has not tried to formulate a course of study for the nation or for any given community. It has, however, tried to present an outline of subject matter and school activities relating thereto from which any community whether rural, city, or state, might find materials for a course of study. Because of this attempt to present a large variety of material to meet varying situations, more material has been suggested than can be covered in any given community within the time usually devoted to this subject. *The general purpose has been to help communities to prepare a course of study in nature study and elementary science rather than to prepare a course for them.*

Significant Trends and Tendencies in Nature Study and Elementary Science Teaching

Wide-spread movement for nature and science study among many organizations—Much could be said concerning trends and tendencies in nature study and elementary science, but limitation of space necessitates elimination of all save developments which are distinctly new and prophetic. The increasing use of nature study in summer camp work, the growth of the nature guiding movement which has become a feature of the National Park Service, the adoption of programs of nature study and elementary science in the work of the Playground and Recreation Association of America, and the cooperation of museums with school systems in carrying out well organized and conducted programs of nature and science education are matters of significance, which furnish suggestions to the forward-looking educator.

Outdoor nature study versus indoor—In the opinion of the committee the outstanding opportunity for new and surpassing values in this field lies in summer extension work. During the vacation period when the child is without other organized employment for his energy nature study material is at the height of its abundance. Forty-eight school systems of the ninety which replied to the committee's questionnaire believe that outdoor nature teaching is more valuable than that done indoors. Fifty-five are doing a part of their teaching outdoors. Others report that in spite of their belief in the outdoor work, crowded programs, large classes, or weather conditions prevailing during the greater portion of the school term make outdoor nature work impossible. These obstacles may not be easily overcome, but a large proportion of school children may nevertheless experience the advantage of outdoor nature study through summer camps, nature guiding, and summer gardens.

Nature study in summer camps—Fourteen cities report that summer camp work is already a part of their program. Three state definitely that their camps are not school camps, but Boy or Girl Scout camps, and the like, which school children attend. (Had attendance at such camps been taken into consideration by all who replied to the questionnaire, doubtless many more would have reported summer camp work.) Another city which reported a summer camp conducted by the schools states in reply to detailed inquiry that the camp belongs to the physical education rather than the nature study department. Unfortunately there has not been time to receive detailed information from the other ten cities, but quite independent of the character of the summer camp work now being done, there is the fact that nature study and elementary science camps properly carried on during the vacation period by school systems would prove an inestimable enrichment in the curriculum and in the life of .a child attending them.

Many questions arise at once. By whom shall the camps be conducted? By whom financed? How many children shall be allowed to attend? How shall they be selected? For what period shall a child remain in camp? How long shall the camps be open? Shall school teachers do the teaching in camp? The committee feels that each community can best answer such questions for itself. In some localities there may be clubs or individuals who, if the subject were presented, would supply the necessary aid to launching the project. The problem is not an easy one. Lack of trained nature counselors for such camps is a serious question. It may require several years for full solution, but here we believe lies one of the potential opportunities for the nature and science work of the future.

Organized vacation nature guiding—Next to the summer camp, organized nature guiding during vacation offers the most striking possibility for extension work of real value. Though less wholly satisfactory, because it fails to provide for continuous life in the open, it presents a far less complicated problem than the school camp. All that is necessary to its success is one individual with enough devotion and common sense to organize, in accordance with the needs of a given locality, a feasible program of all day or half day hikes, and to see that the program is carried out. Finding persons both willing and qualified as nature guides is probably the chief difficulty. Members of the local chapters of the Wildflower Preservation and Audubon Societies, and officers of the United States Forest Service are unfailing in their interest in such educational work. Here again details of how the plans may best be executed will multiply, but only the members of a community can know and adequately cope with the exigencies of their particular situations. Bulletin No. 17 of the American Nature Association, 1214-16th Street, N. W., Washington, D. C., (sent on request to members and for twenty-five cents to non-members) gives suggestive information.

School gardening difficult to carry on, but rich in returns—School gardening is nature and science work whose return in the mental, spiritual, and physical development of the child is attested by the great majority of those who have taught it. Thirty-nine cities which formerly included school gardening have discontinued it, but only seven express doubt as to its value in the reasons they state for its discontinuance. The other reasons given seem in the line of material obstacles rather than of the weighing of values. Only twenty-one school systems of the ninety which replied to the first questionnaire at present have school gardens. As previously noted, thirty-nine have discontinued. The committee urges careful consideration of the project, and experimentation prior to a final decision on the part of any school system to omit school gardening in its program of nature study and elementary science work.

Nature study included in the program of the Playground and Recreation Association of America—Another significant trend in nature study and elementary science is its use in the program of the Playground and Recreation Association of America. To quote from a letter of October 22, 1925 from L. H. Weir, director of National Study of Municipal and County Park Systems:

> The development of nature study as a part of the programs of playground and recreation systems is in its infancy. A goodly number of local playground and recreation systems throughout the country include nature study clubs, hiking clubs with nature study objectives, collection clubs, community gardens, bird box-making contests, municipal camps in which some attention is given to nature study activities, etc.,—but I do not know of a single organized recreation system in the country which employs, at the present time, a year-round nature study leader or has a well-developed and organized system of nature study activities.
>
> For the past few years we have given considerable attention to nature study and its place in a community play and recreation program at the National Recreation Congresses.
>
> Our chief difficulty in making much progress is to be found in the lack of training of the average playground instructor in nature study and the impossibility, at this stage of municipal recreation development, of employing specialists in nature study activities.

The Playground, the official organ for the Playground and Recreation Association of America, May, 1922, pp. 61-66, gives a statement on nature activities in playground and recreation systems.

The committee desires to suggest the use of nature activities in school playground work as a road to health and recreation as well as knowledge.

Cooperative relationships between public schools and museums—Museum extension work is another phase of nature study and elementary science teaching which should be given earnest consideration by all school systems in places where there are museums. The Children's Museum League of Buffalo, New York, is described in detail in *Hobbies* Volume IV, No. VIII, January, 1924. (*Hobbies* is the official magazine of the Buffalo Society of Natural Sciences, Buffalo, New York, and can be had free upon request.) Mr. L. H. Weir, previously quoted as to playground work, calls this program of the Buffalo Society of Natural Sciences, "One of the very best examples of a well organized and conducted community program of Nature Study and Elementary Science." A letter of November 14, 1925 from Dr. E. C. Hartwell, superintendent of schools, Buffalo, New York, says in part:

> We have a very helpful relationship with the Buffalo Society of Natural Sciences. A teacher under the direction of the Society is responsible for what is known as "children's work," and with this work there is a very close articulation with what is found to be useful and helpful in the ordinary course of instruction in the schools. In addition to this, we have the use of a great many lantern slides that are loaned to us by the Society and also the service of a lecturer who spends most of his time in the schools.
>
> The city has just appropriated a million dollars for a new Natural Science Museum, and when this new building is completed, it will be organized in a way best calculated to serve our educational needs.

The Field Museum of Natural History, Chicago, has several methods of extension work, cases of exhibits which are loaned to the schools, a staff of guide lecturers to conduct classes through the museum, series of entertainments for children on Saturday mornings in Spring and Autumn (usually a motion picture with occasional lectures), printed "Museum Stories" for distribution to children, special lectures, and extension lectures given in school auditoriums or classrooms. In the public schools an exact correlation is made between the classroom work and the section of the museum visited. A printed outline is furnished showing this correlation for every grade.

The Park Museum, Roger Williams Park, Providence, R. I., carries on well-planned cooperation with the schools of that city, in the form of lectures both in the schools and in the museum, nature games, laboratory and field work, and notebooks. All of these activities are connected with a credit system by which children earn a diploma, the honor of being a junior museum guide, and finally a silver medal. This work is similar to that already mentioned, organized for the Buffalo Society of Natural Sciences in Buffalo. The museum has printed matter concerning its children's activities which it sends out upon request, and is always glad to answer questions.

The National Museum, Washington, D. C., has arranged, in special rooms set aside for the purpose, exhibits of the fauna and flora of the District of Columbia for the use of nature classes of the local schools. From time to time series of Saturday morning lectures have been given for school children in the museum auditorium. Recently a teacher of the nature study corps has been detailed for part-time activity in children's nature and science work in the museum.

School programs of nature and science work which make possible summer camp work, nature guiding, nature work in connection with playgrounds and cooperative work with museums, societies of natural science, and similar organizations will have secured for their children outstanding values of nature study and elementary science.

Present Status of Nature Study and Elementary Science Teaching in the Public Schools

These data were compiled from ninety questionnaires filled out and returned by school systems enrolled in the Cooperative Plan of Curriculum Revision, which had expressed special interest in nature study and elementary science, by those expressing no subject preference, and by those expressing interest in social science which in some school systems includes nature study.

How widely is nature study and elementary science taught in the public schools?—Of the ninety school systems reporting, seventy-one teach nature study and elementary science. Eight others are planning to teach it. It is a comparatively new elementary school subject, since fifty-four out of these seventy-one school systems have added elementary science to their courses of study within the last fifteen years.

How much time is allotted to nature study and elementary science?—Table 1 shows a wide variation in time allotted to nature study and elementary science in the seventy-one selected cities which reported.

TABLE 1.—TIME ALLOTTED TO NATURE STUDY AND ELEMENTARY SCIENCE IN 71 CITIES

Grade	Minutes per week		
	Minimum	Maximum	Average
Kindergarten	15	300	103
First	15	150	65
Second	10	150	64
Third	10	225	67
Fourth	15	250	81
Fifth	20	300	86
Sixth	20	300	88

The biological, geological, astronomical, and meteorological aspects of nature, as differentiated from the physical and chemical aspects of environment, natural and man made, command the greatest attention in nature study and elementary science courses. Forty-eight out of the seventy-one school systems reporting, stated that to these aspects of the subject they devoted from forty to one hundred percent of the time allotted to nature study and elementary science.

Organization and methods of teaching nature study and elementary science—Twenty-seven out of the seventy-one cities reporting, teach nature study and elementary science as a separate subject. Forty-four teach it as a special subject and in correlation with other subjects. Thirty-six cities correlate nature study and elementary science with geography; twenty-five cities correlate it with language; fourteen, with hygiene; thirteen, with art; six, with recreational activities; and five, with history.

Special teachers for nature study and elementary science were reported by eighteen out of the seventy-one school systems. Special rooms for nature study and elementary science were reported by seventeen school systems. The spiral arrangement in presentation of subject matter was approved by forty-eight out of the seventy-one school systems.

Summer extension work in the form of school gardens was reported by eight school systems; nature guiding by three; garden clubs by one; and summer camps by fourteen. It has not been ascertained whether any of these are school camps, or whether all are Scout camps and the like, with which public schools cooperate.

Forty-eight school systems stated that they believed that outdoor nature teaching is more valuable than indoor. In actual practice, however, forty-three schools reported that they did only from one to twenty-five percent of their nature teaching out of doors. Nine school systems reported that they did from twenty-five to fifty percent out of doors; and two, from seventy-five to one hundred percent.

School gardens. Twenty-one of the school systems replying, teach school gardening. Eight continue school gardens during the summer vacations. The maximum number of school gardens, each containing many individual plots, reported by any one school system was sixty-five. The minimum was one; and the median, eleven.

The average time allotment for school gardening, during the school term, is fifty-four minutes per week; during vacation it is ninety-three minutes per week. The average term for a course in school gardening is from March to June inclusive.

Aims and Objectives for the Teaching of Nature Study and Elementary Science

The following tentative statement of aims and objectives for the teaching of nature study and elementary science is a compilation and digest of: (a) Individual reports of committee members, committee advisers, and representative citizens, (b) six books on nature study and elementary science most used by teachers, (c) courses of study from thirty cities and states, representing all sections of the country, and, (d) Bobbitt's statement of educational aims.

The ultimate aim of education to which nature study and elementary science contribute is to produce a well-rounded individual, capable of living a wholesome, happy life, and contributing worthily to the welfare and happiness of others.

The aims listed below do not in every case belong exclusively to nature study and elementary science but all are especially well fulfilled by this subject.

General Classification of Aims in Teaching Science

A. Ethical Aims:

1. Perception of and proper regard for truth—intellectual honesty.
2. Moral uprightness.

B. Spiritual Aims:

1. Sense of the community of nature and of human interdependence.
2. Reverence for, companionship with, and love of nature.
3. Ability to catch glimpses of the Cosmic Forces as revealed in natural manifestations, in living creatures, in mankind, and in the record of man's thought and action and aspiration as presented in nature, in literature, music, and art dealing with nature, and in science.

C. Aesthetic Aims:

1. Creation and appreciation of beauty.
2. Conservation of natural beauty.

D. Intellectual Aims:

1. Appreciation of one's environment through habit of observation.

2. Development of mental activities necessary to the proper exercise of the many specific functions involved in nature study and elementary science, including: (a) Knowledge of the things involved, (b) Right attitudes, especially those of sustained interest and habitual curiosity in nature study and elementary science, and (c) Right valuations and appreciations.

E. Social Aim: Ability and desire to contribute worthily to home life and the life of the community.

F. Civic Aim: Stimulation of thought, feeling, action and reaction as an efficient, intelligent, sympathetic and loyal member of the large social group.

G. Economic Aim: Conservation of useful forms and control of the injurious.

H. Vital Aim: Maintenance of physical efficiency.

I. Avocational Aim: Wholesome use of leisure and enjoyment of outdoor recreation.

J. Vocational Aims:

1. Sufficient knowledge of the raising of flowers and vegetables, chickens, pigeons, rabbits, etc., of tree planting and the like, to facilitate a choice of vocations in later life.

2. Ability to produce the necessities of life.

K. Practical Aim: Ability to make use of the forces of nature and science for personal betterment.

Detailed Analysis of Aims in Teaching Science

A. Ethical Aims:

1. Ability to perceive the truth.
2. Belief in the value of the truth.
3. Desire to follow the truth—moral uprightness.

B. Spiritual Aims.

4. Realization of one's relationship to all other living things and to the universe as a whole, and of one's dependence upon his fellows, upon other forms of life, and upon the forces of nature.

5. Realization of the wisdom of nature's laws and of one's dependence for successful living upon obedience to them.

6. Sense of companionship with outdoor life, and abiding love of nature.

7. Establishment of clean wholesome interests.

8. Ability to catch glimpses of the Cosmic Forces as revealed in natural manifestations, in living creatures, in mankind, in man's highest examples, in the record of man's thought and action and aspirations as presented in nature, in literature, music, and art dealing with nature and in science.

9. Reverence for the wonderful universe, for its mysterious forces, and for life.

10. An attitude and desire of obedience to the law of love. Confidence in and habitual practice of sympathy, humaneness, kindness, regularity, patience, persistence, diligence, care, steadfastness, self-control, industry, thrift, and intellectual honesty. Desire to create happiness.

C. Aesthetic Aims:

11. Ability to create beauty and to use it.
12. Ability to see and appreciate beauty.
13. Habitual conservation of natural beauty.
14. Ability to interpret nature in a manner productive of aesthetic appreciation.

D. Intellectual Aims:

15. Acquaintance with the environment in which one lives, through direct observation of: (a) man; (b) plant life; (c) animal life; (d) physical phenomena; (e) geological phenomena; (f) astronomical phenomena; (g) sound and music as related to nature study and elementary science; (h) language and literature as related to nature study and elementary science; (i) form, color, and visual art as related to nature study and elementary science; (j) man's inventions and creations; (k) the world in composite forms: woods, hills, streams, lakes, oceans, farms, cities, etc., and (l) the world of myth, legend, folklore, fairy tale, as related to nature study and elementary science.

In each of the above fields the teacher should seek to awaken interests, tendencies to greater attention, deeper appreciations, and normal emotional reactions.

16. Sustained interest in the phenomena of nature and science, ever increasing, broadening and deepening.

17. Automatic watchfulness or attention to the things involved.

18. Habit of observing keenly, independently, patiently and correctly.

19. Ability to exercise and control one's imagination.

20. Right valuations, attitudes, and appreciations of things involved, for example: (a) Attitude of habitual curiosity concerning truth, (b) Ability to differentiate between useful and injurious forms, (c) Elimination of impulses of fear and the desire to kill unnecessarily, (d) Appreciation of the importance of agriculture and the dignity of labor, and (e) Ability to think straight, and draw correct conclusions.

21. Normal and healthy emotional responses to the things, situations, and experiences, involved in nature study and elementary science, enjoyment of the pleasures of the senses.

22. The specific habits and skills which are necessary for easy and effective performance of the activities of nature study and elementary science.

23. Self-direction and self-control in performing specific activities. Development of initiative.

24. Habits of planning action prior to execution.

25. Habit of keeping abreast of developments, discoveries, or inventions. Development of the scientific attitude of mind.

26. Ability to give accurate expression to the result of one's observations, experiences and emotions.

27. Ability to determine what constitutes proof.

28. Recognition of defects, errors, or shortcomings in conditions, processes or results.

29. An abiding and impelling confidence in the worth of one's labors.

30. Development of poise and common sense.

NOTE: Handling caterpillars, white mice, etc., cleaning animal and poultry cages, putting manure on a garden and like activities fulfill this aim.

31. Use of nature study and science interests as mental relaxation throughout life to aid in keeping mentally fit.

32. Ability to use language in all ways required for proper and effective participation in the community life.

NOTE: The child acquires knowledge of his environment through the senses, and uses it more naturally and easily than other material as the basis of oral expression.

33. Acquaintance with the most common scientific terms which are apt to occur in reading.

34. Maintenance of interest and vitality in all school work, especially as a basis of expressive studies, as writing, reading, drawing, manual arts, and oral expression. (Correlation.)

35. Habit of experimentation in school and out for the purpose of learning first-hand from nature.

E. Social Aims:

36. Reverence for human life.

37. Habit of cooperation with others in worthy undertakings.

38. Ability to make use of nature's forces for social betterment.

39. Sincerity, honesty, straightforwardness, truthfulness, fair-dealing, steadfastness, and reliability in one's dealings with others.

40. Desire to contribute to community and national welfare by conserving natural beauty and natural resources, including human health and energy, and controlling injurious forms.

41. Desire to contribute to home life by growing gardens, improving lawns, and understanding and properly using the household and other equipment of daily life provided by science.

42. Building of ideals of home life, of family ties and of the love and duties of parents and children.

43. Appreciation of obligations to succeeding generations.

F. Civic Aims:

44. Acquisition of knowledge that will make one a better citizen, living in a better and more convenient home amid more beautiful and attractive surroundings.

45. Ability to participate intelligently in matters of public opinion where knowledge of science is necessary, as city water supply systems, street lighting, street and road construction, ventilation of public buildings, fire protection, gas supply, ice supply, etc.

NOTE: The specific topics must be selected to fit the needs of each community.

46. Correction of superstitions, fallacies, prejudices, sentimentality, and the like.

NOTE: Toads, harmless snakes, spiders and bats are helpful creatures which have been ignorantly persecuted and destroyed. On the other hand certain forms, such as the house fly and the mosquito must be controlled to insure health to human beings. Fear of lightning should be discouraged, but the use of a lightning arrestor should be understood.

47. Realization of the importance of the conservation of natural resources including human health and energy.

48. Ability to differentiate between the injurious and the good in one's environment.

49. Ability to discern the social obligations and individual rights of one's self and others.

NOTE: School gardening supplies practical experience in this line.

50. Habitual practice of thrift.

51. A sufficient knowledge of the laws which one is expected to obey. Examples: Bird laws, game laws, wildflower protection laws, forest protection regulations, fire regulations, etc.

G. Economic Aims:

52. Conservation of useful forms and control of the injurious.

53. Reduction of cost of living through gardening.

54. Ability to live intelligently amid present day surroundngs, such as telegraph, telephone, etc.

H. Vital Aims:

55. Keeping one's physical well-being at the maximum through: (a) Understanding and following nature's laws, (b) Habitual physical exercise out-of-doors, (c) Finding sane mental occupation out-of-doors, (d) Deriving relaxation from nervous tension out-of-doors, and (e) Acquiring a background for the facts of sex instruction when the time comes for their presentation.

56. Ability to protect one's self from micro-organisms and poisons from plants, venomous snakes, etc., and to deal with them and their products effectively in case of attack.

I. Avocational Aims:

57. Ability, disposition, and habit of taking up occasionally the systematic study of some new thing in the line of nature study or science.

58. Habit of prolonging and repeating the enjoyment of nature and science through meditating upon one's experiences.

59. A disposition toward experimentation, exploration, discovery, and invention in the fields of nature study and science.

60. Ability, profitably to utilize the observational opportunities of travel.

61. Ability to utilize music for a helpful, abundant and varied awakening of one's emotional nature.

NOTE: Bird songs, animal calls, sounds of wind and wave, nature songs, etc.

62. Ability to utilize the products of the visual arts as sources of enjoyable and profitable aesthetic experiences.

63. Amateur ability in the field of the fine arts.

64. Ability to participate in desirable activities of social clubs.

NOTE: Bird clubs, wildflower clubs, science clubs, etc., are popular and profitable in fifth and sixth grades.

65. Ability and disposition to engage with pleasure and profit in a sufficient and varied amount of games, sports, athletics, and outdoor recreation.

66. Ability and disposition to utilize outdoor life in the midst of natural surroundings as recreation for mind and body.

J. Vocational Aims:

67. Experience, self-confidence, initiative and knowledge of how to do things.

68. Ability to supplement one's income.

69. Background of knowledge aiding in a wise selection of one's vocation.

K. Practical Aims:

70. Ability to make use of the forces of nature and science for personal betterment.

NOTE: Specific examples: Ability to care for pets and other animals. Ability to perform the operations involved in the care of the premises and garden.

Correlation with Hygiene[1]—The committee recommends the incidental teaching of hygiene in connection with many phases of biological nature study. The following suggestions were prepared by the Department of Educational Measures of the American Social Hygiene Association.

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[1] Before reading this section review statement of quantitative objectives insert opposite page 72.

As illustrating the possibility of correlating some points on hygiene directly with nature study, and thus securing a means of introducing other hygiene conditions, these points are suggested:

1. Birds because of their protective covering, their large intake of food in proportion to weight, their high nervous and muscular activity, their unusually effective respiration, and their high temperatures may well be made the starting point for a discussion of clothing, respiration and ventilation, food and its uses, and our own devices to regulate body temperature. How do these factors bear upon "catching cold" among humans?
2. The difference between warm blooded and cold blooded animals and their mode of life in consequence of these conditions can be used to extend further the information and practices suggested by 1.
3. The chicken, the cat, the dog and their periods of activity, rest, and sleep may be used to introduce these subjects in the life of the child.
4. In similar ways the question of diet, of mastication and the other digestive processes may be introduced in connection with these functions in animals.
5. "Among the enemies of man" there should certainly come before the end of the sixth grade a little discussion of the micro-organisms, plant and animal, which enter our bodies and produce disease. How do these enter our bodies? Some of the steps necessary to avoid being infected and infecting others should be suggested. At this point, oral hygiene and the hygienic value of cleanliness could be introduced.

A Suggestive Statement of Pupil Activities and Experiences in Nature Study and Elementary Science for Kindergarten and First Six Grades

Directions for relating the Activities and Experiences, p. 73-99 to the insert of Quantitative Objectives, opposite p. 72 and the Aims and Objectives, p. 67-70—The number following the title of each group of Activities and Experiences indicates the group number of related Quantitative Objectives given in the insert opposite page 72. All numbers of one or two places refer to the kindergarten. All 100's refer to first grade; all 200's to second grade, etc. For example, 411 refers to the fourth grade unit on trees, which will be found in the fifth vertical and eleventh horizontal column in insert opposite page 72.

The numbers following each activity refer to those in *Detailed Analysis of Aims* (middle of page 67 to page 70), which the activity fulfills. For example, "Watching frogs out of doors" is the first activity stated for kindergarten work under the heading: "Batrachians" on page 73. It is followed by the numbers 1, 6, 7, etc., which refer to the *Detailed Analysis of Aims in Teaching Science* (having the same numbers and beginning on middle of page 67)—*Ability to perceive the truth, etc.*

Correlations—In every grade the following correlations are suggested, in so far as they fit the ability of the child and are appropriate to the subject—oral and written expression, reading, drawing, painting, paper-cutting and toy making, songs, stories, poems, and dramatization, puzzles and games, charts, scrapbooks, notebooks, and collections. Such Activities fulfill the following Aims: 15g, h, i, l, 26, 32, 34, 58, 61, 62, 63, 65.

Progress plan underlying the statement of activities—The Activities and Experiences stated follow a plan of definite progress, which also underlies the Quantitative Objectives. Those of the kindergarten, first, and second grades teach the child to recognize the subject of study through its activities and most striking characteristics, and to know where to look for it.

In the third and fourth grades he makes such additional observations and interpretations as are possible through the exercise of his own powers.

In the fifth and sixth grades he adds to his original investigations, the knowledge of others as given in books, bulletins, etc. Such phases of study as the relation of an organism to nature and to man's interests may be undertaken in these grades.

The committee makes acknowledgment for this organization to the Fieldbook of Nature Study, by E. L. Palmer, Comstock Publishing Company, Ithaca, New York.

It is important to note that activities should include mental as well as physical processes. Comparison, discrimination, inference, and elementary summarizations are of increasing importance as the child progresses through the grades. The mere learning of facts through observation, reading and instruction falls short of its best values, unless through thinking about these facts the child learns to discriminate, classify, and draw rational conclusions.

This statement only suggestive—This statement of Activities and Experiences is merely suggestive, and by no means exhaustive. The committee doubts the possibility or desirability of presenting a "complete" statement, since teachers and pupils everywhere should be constantly devising and discovering better ways of doing the work. However, enough Activities and Experiences are suggested to permit selection. Insofar as is practicable pupils should choose their own activities, but skilful guidance on the part of the teacher is necessary at all times.

The Activities and Experiences are stated in general terms and will in some cases require analysis into component parts and successive steps in making a course of study. In so general a statement it has not in all cases been possible to preserve a seasonal sequence.

The committee has discovered by experimentation that the relating of an activity to specific aims is in many cases a matter of interpretation. It has not attempted to place every possible reference after every activity, nor does it claim always to have made the best selection; but it has endeavored to demonstrate that a very concrete relationship exists between the Activities and Experiences and the Aims and Objectives, which any teacher may establish for himself.

A SUGGESTIVE STATEMENT OF QUANTITATIVE OBJECTIVES IN NATURE STUDY AND ELEMENTARY SCIENCE FOR THE KINDERGARTEN AND FIRST SIX GRADES

Read from top to bottom the statement presents a balanced course for each grade. Read from left to right it presents the development of each topic in the course during the first seven years of school life. Enough material is suggested to permit selection in making local courses of study. This is a preliminary statement sufficiently flexible to be subsequently modified, if desired.

	KINDERGARTEN	FIRST GRADE	SECOND GRADE	THIRD GRADE	FOURTH GRADE	FIFTH GRADE	SIXTH GRADE
BIOLOGICAL NATURE STUDY BATRACHIANS	1 1. Frog, recognition, activities, where to look for it, abundance. 2. Frog tadpoles, recognition, activities, where to look for them, abundance.	101 1. Toad, recognition, activities, where to look for it, abundance. 2. Toad tadpoles, recognition, activities, where to look for them, abundance.	201	301 1. Frog, review topics of previous grades, voice, habits, appearance, parts, adaptations, food, eggs, (size and appearance, number, where laid, when laid), immature stages. 2. Salamander, recognition, activities, where to look for it, habits, appearance, parts, adaptations, food, eggs (size and appearance, number, where laid, when laid), immature stages.	401	501 1. Toad, as a friend of the garden, review topics of first grade, voice, habits, appearance, parts, adaptations, eggs (size and appearance, number, where laid, when laid), immature stages, enemies, self-protection, range, how it spends winter, use to nature, use to man, how man should protect it. 2. Laws concerning useful batrachians such as bullfrog, and green frog.	601
BIRDS Note: The occasional injurious bird should never be studied until the value of bird life is fully appreciated.	2 1. Pigeon, the big bird of the street, recognition, activities. 2. Help for birds in winter, seed tray on window sill, suet on trees, crumbs. 3. Birds of the neighborhood, at least three, recognition, activities, where to see them, abundance. 4. Nest building, (observation only). 5. Family life of birds, parental care. 6. Pet bird, recognition, activities.	102 1. Birds common to locality in fall (two), recognition, activities, songs and calls, where to see them, abundance. 2. Domestic fowl (hen or duck), recognition, activities, what man can do for its comfort. 3. Help for birds in winter, water, crumbs, suet. 4. Young chicks or ducklings, recognition, activities, mother's care. 5. Returning birds, (two common to neighborhood in spring), recognition, activities, where to see them. 6. Family life of a familiar bird, (robin suggested). 7. Places in which birds are seen, in vines, in trees, on flowers, on bushes, on lawns, on street, in fields, in woods, on water, along shores.	202 1. Birds seen during vacation (a report). 2. Birds seen from day to day, recognition, activities, where seen, name. 3. Fall migration. What becomes of the many birds of summer? Do any stay with us? 4. Types of nests, of what made, appearance, where found. 5. Domestic fowl (turkey, goose, or guinea), recognition, activities, voice, what man can do for its comfort. 6. Pet bird, recognition, what it does, songs. 7. Winter birds, special study of two, (crow and cardinal suggested) recognition, activities, where to see them. 8. Help for winter birds, birds' Christmas tree. 9. Returning birds (two common to the neighborhood in spring), recognition, activities, songs, where to see them. 10. Bird songs, meaning of various sounds made by chickens, recognition of songs of wild birds studied during year.	302 1. Ground and water birds (hen and duck) recognition, activities, voice, sexes, nest site, eggs and incubation, condition of young, number of broods, number in a brood, food (of young, of adult), plumage, appearance, parts, adaptations. Compare wild types. 2. Woodpeckers, swallows, kingfishers, orioles (outline as for topic 1) 3. Winter birds, six common to locality, include good members of sparrow family, (outline as for topic 1). 4. Food for winter birds, what they like, how to put it out. 5. Returning birds (one common to neighborhood in spring), family life. 6. Outdoor good manners in regard to birds, low voices, slow quiet movements, keeping far enough away not to frighten birds. 7. Nesting project, (setting a hen). 8. Birds of the zoo, in trees, in cages.	402 1. Bird calendar. 2. Bird songs and calls. 3. Game birds, special study of two which need protection, recognition, activities, where to find them, voice, sexes, courtship, nest (site and structure), eggs, incubation, condition of young, number of broods, number in a brood, food of young, of adult, plumage, appearance, parts, adaptations. 4. Bird sanctuaries. 5. Feeding stations and bird baths. 6. Winter birds, two permanent residents and two winter visitors, (outline as for topic 3, emphasis on food supply). 7. Spring migration, return to old homes, birds' idea of property rights. 8. Spring arrivals, special study of two (outline as for topic 3).	502 1. Bird friends of the garden. a. Three insect eaters, recognition, activities, where to see them, song, sexes, courtship, nest, (site and structure), eggs, incubation, condition of young, number of broods, number in a brood, food (of young, of adult), appearance, plumage, parts, adaptations, use to nature, relation to man's interests, need of protection. b. Three weed-seed-eaters, (outline as for topic 1-a).	602 1. Economic value of birds: a. Insect eaters, two or three as types, review topics of previous grade, laws concerning. b. Weed-seed-eaters, two or three as types (outline as for topic 1-a). c. Flesh eaters, two or three as types (outline as for topic 1-a). d. Scavengers, two or three as types (outline as for topic 1-a). 2. Bird houses, how to make them, where to place them, winter feeding. 3. The shifting bird population. a. Summer residents, six as types, review topics of previous grade, migration, range winter and summer. b. Permanent residents, six as types, (outline as for 3-a). c. Winter residents, four as types, (outline as for 3-a). d. Fall and spring transients, four as types, (outline as for 3-a). 4. Bird migration, reasons for it, where birds go, usual routes, preparations, dangers, two striking stories of migration. 5. Game birds, review of fourth grade work, migration, range winter and summer, use to nature, relation to man's interests, need of protection, laws concerning.
FISH	3 1. The goldfish in its element, recognition, activities.	103 1. Goldfish, recognition, activities.	203 1. Goldfish (or other aquarium fish), recognition, activities. 2. A common fish of local waters, recognition, activities, where to find it, abundance.	303	403 1. A breeding aquarium fish (as stickleback), review topics of previous grades, habits, appearance, parts, adaptations, food, eggs, (number, when and where laid), care of young by parents. 2. A common fish of local waters, (outline as for topic 1).	503	603 1. Salmon (a national problem in conservation), review topics of previous grades, parts and adaptations, food, eggs (number, when and where laid), care of young by parents, migration, range, enemies, how caught, purchase and sale, use to man, use to nature, need of protection, laws concerning. 2. Fish common to local waters, recognition of six, special study of one, (outline as for topic 1).
INSECTS	4 1. Caterpillar, recognition, activities, where to see it, abundance. 2. Bee, recognition, activities, where to see it, abundance. 3. Moth and butterfly. (Outline as for topic 1) Observation of opening cocoons and chrysalids.	104 1. Caterpillar, recognition, activities, where to look for it, abundance, how to care for it in schoolroom. 2. Varying abundance of insects to be seen outdoors at different seasons. 3. Water insects in aquarium, recognition, activities, where to find them outdoors. 4. Moths and butterflies, recognition, activities, where to look for them, observation of opening cocoons and chrysalids.	204 1. Caterpillar, recognition, activities, where to look for it, abundance, how to care for it in schoolroom. 2. Fall insects, three common to locality, (grasshopper, cricket and ladybird suggested), recognition, activities where to look for them, abundance, how to care for them in schoolroom. 3. Sounds made by insects. 4. Winter homes of insects, where to find them, what they are like, by whom made. 5. Moth and butterfly, special study of one of each common to locality, recognition, activities, where to look for them, abundance, observation of opening cocoons and chrysalids.	304 1. Caterpillar, recognition, activities, where to look for it, abundance, movements, appearance, parts, adaptations, food, life cycle (stages of development.) 2. Butterflies, (special study of two common to locality,) recognition, activities, where to look for them, abundance, movements, appearance, parts, adaptations, food, eggs, (where found, number, incubation,) life cycle, (stages of development). 3. Cicada and locust (or two other insects common to locality,) (outline as for topic 2, add voice). 4. Leafgalls, recognition, how formed, where to find them, comparison of different types. 5. Silkworm and silk moths, (outline as for topic 2). 6. Water insects (mayfly, giant water bug, dragonfly suggested). (Outline as for topic 2).	404 1. Leaf miners, what they do, appearance of creature and its work, where to look for their homes, abundance. 2. Ants, recognition, activities, where to look for them, abundance, home, habits, characteristic movements, appearance, parts and adaptations, food, eggs (where found, number, incubation) life cycle (stages of development)—emphasis on community life. 3. Aphids, recognition, activities, where to look for them, abundance, habits, movements, appearance, parts, adaptations, relation to ants. 4. Bees, (outline as for topic 2), emphasis on community life. 5. Social wasps, (outline as for topic 2), emphasis on community life. 6. Solitary wasps, (mud and paper wasps suggested, outline as for topic 2, except last subtopic.) 7. Water insects, special study of two common to locality, (outline as for topic 2.) 8. Ant lion, (outline as for topic 2.)	504 1. Caterpillars, review topics of third grade, enemies and protection, use to nature, relation to man's interests, control. 2. Moths and butterflies, special study of one of each, review of topics of third grade, enemies, self-protection, use to nature, relation to man's interests, control. 3. Insect friends of the garden (at least three such as ladybird beetle, mantis, tiger beetle, dragonfly) recognition, activities, where to find them, abundance, habits, characteristic movements, appearance, parts and adaptations, food, eggs (where found, number, incubation), life cycle (stages of development), enemies, self-protection, use to nature, relation to man's interests. 4. Insect enemies of the garden (at least three such as aphids, tomato worm, potato beetle), (outline as for topic 3), control. 5. Laws concerning importation of foreign insects and transportation of dangerous kinds.	604 1. Ants, review work of fourth grade, enemies, self-protection, use to nature, relation to man's interests, control. 2. Disease carriers (mosquito and housefly), recognition, what they do, where to look for them, abundance, habits, characteristic movements, parts and adaptations, food, eggs (where found, number, incubation), life cycle (stages of development), relation to man's interests, control. 3. Other insect enemies of man (at least one such as clothes moth, cockroach, water bug), (outline as for topic 2.) 4. Insect enemies of trees (at least three such as gypsy moth, tussock moth, bag worm, pine borer, elm borer, elm leaf beetle, peach borer, Japanese beetle), (outline as for topic 2). 5. Laws concerning importation of foreign insects and transportation of dangerous kinds.
OTHER INVERTEBRATES	5 1. Water snail, recognition, activities, where to find it, abundance. 2. Spider webs, (observation). 3. Spider, recognition, activities, where to find it, abundance.	105 1. Water snail, recognition, activities, where to find it, abundance. 2. Land snail, recognition, activities, where to find it, abundance, how to care for it in schoolroom. 3. Slug, recognition, activities, where to find it, abundance, how to care for it in schoolroom.	205 1. Spider webs, different forms, where to find them. 2. Spiders, recognition, activities, where to find them, abundance, how to care for them in schoolroom. 3. Thousandlegs, recognition, activities, where to find them, abundance, how to care for them in schoolroom.	305 1. Thousandlegs, review topics of second grade, appearance, parts, adaptations, food, manner of procuring food, eggs, life cycle (immature stages).	405 1. Crayfish or crab, recognition, activities, where to find it, abundance, appearance, parts, adaptations, habits, food, manner of procuring food, eggs, life cycle (immature stages). 2. Fresh water mussel or fresh water clam, (outline as for topic 1).	505 1. Earthworm, recognition, activities, where to find it, abundance, home, habits, appearance, parts, adaptations, food, manner of procuring food, eggs, life cycle, enemies, use to nature, relation to man's interests. 2. Spider, (outline as for topic 1).	605 1. Crayfish, crab or lobster, review topics of fourth grade, enemies, use to nature, use to man, cultivation of crabs and lobsters, laws concerning crabs, and lobsters. 2. Oyster, recognition, activities, where to find it, abundance, home, habits, characteristics, adaptations, food, manner of procuring food, eggs, life cycle (immature stages), enemies, use to nature, use to man, how gathered, sale, cultivation, laws concerning oysters. 3. Migration of mollusks, striking examples, purpose, methods by which it is accomplished, distances traveled.
MAMMALS	6 1. Squirrel, recognition, activities, where to see it, abundance. 2. A pet (rabbit suggested) recognition and activities. 3. Farm animals, (three or four), recognition, activities. 4. Animals of the zoo or circus parade, (three or four), recognition, activities.	106 1. Squirrel, recognition, activities, where to see it, abundance. 2. Cat, recognition, activities, how to make it and other pets comfortable, how to care for it in the schoolroom. 3. Wild relatives of cat, (at least two), recognition, activities, where to find them. 4. Animals of the zoo or circus (two not previously studied), recognition, activities. Do they live in our country?	206 1. Chipmunk (or other rodent of locality), recognition, activities, where to find it, abundance. 2. Pets (dog, rabbit, or guinea pig), recognition, activities, how to make them comfortable, care of them in schoolroom. 3. Wild and domestic animals. What is the difference? To which class do the familiar animals belong? What do domestic animals do for us? 4. Young animals (any available), recognition, activities, where to find them, abundance, how to make them comfortable, dependence of young animals upon parental care.	306 1. Dog, review work of second grade, habits, home, food, storage instinct, young (number of litters each year, number of puppies in a litter), care of parent for young, voice. 2. Different kinds of dogs, compare four. 3. Wild relatives of dog, recognition, activities, where to find them, abundance, habits, home, food, storage instinct. young, (number of broods each year, number of young in a brood, care of parents), voice. 4. Animal tracks. 5. Squirrel or chipmunk, (outline as for topic 3). 6. Farm animals, (horse and cow suggested) recognition, activities, habits, home, food, young, care of mother for young, voice, appearance, parts, adaptations, how to make them comfortable. 7. Wild relatives of farm animals studied, (zebra and buffalo suggested as relatives of horse and cow), recognition, activities, habits, home, food, young, care of mother for young, voice, appearance, parts, adaptations, story of depletion of buffalo herds.	406 1. Farm animals (sheep and pig suggested), recognition, activities, habits, home, food, young, (number of broods each year, number of young in a brood, care of mother for young), voice, appearance, parts, adaptations. 2. Wild relatives of farm animals studied, (at least four), (outline as for topic 1). 3. Animals that hibernate, (bear and groundhog), (outline as for topic 1). 4. Animals of zoo, circus or museum, (at least two of the following, elephant, camel, seal, deer, giraffe), (outline as for topic 1). 5. Muskrat and beaver, (outline as for topic 1).	506 1. The bat, a friend of the garden, recognition, activities, where to see it, abundance, habits, food, home, young, care of parent for young, voice, appearance, parts, adaptations, enemies, self-protection, range, use to nature, relation to man's interests, need of human protection. 2. How animals help preserve the balance in nature, (as foxes, coyotes and badgers, destroy rabbits and rodents. Balance disturbed by man's destruction of foxes, coyotes, and badgers). 3. Rats and mice, recognition, activities, where to find them, abundance, habits, food, home, young (number of broods, number in each brood, care of mother), appearance, parts, adaptations, voice, enemies, self-protection, range, relation to man's interests, control. 4. Burrowing animals, enemies of the garden, (rabbits, wood rats, field mice, gophers suggested), (outline as for topic 3), laws concerning.	606 1. Fur bearers, (muskrat and beaver), recognition, activities, where to find them, abundance, habits, food, home, young, (number of broods in a year, number in a brood, care of parents), voice, appearance, parts, adaptations, enemies, self-protection, range, use to nature, relation to man's interests, need of protection, laws concerning, fur farming, experimental and commercial. 2. Game animals (antelope, deer, moose, and elk suggested), recognition, activities, where to find them, abundance, habits, food, home, young, (number each year), voice, appearance, parts, adaptations, enemies, self-protection, range, use to nature, relation to man's interests, need of protection, laws concerning. 3. Game preserves. 4. Game clubs and organizations in relation to conservation.
REPTILES	7 1. Turtle (land or water), recognition, activities, where to find it, abundance.	107 1. Lizard, recognition, activities, where to find it, abundance.	207 1. Land turtle, recognition, activities, where to find it, abundance.	307 1. Land turtle, review work of second grade, appearance, parts, adaptations, food, method of obtaining food, eggs, (number, size, shape, color, texture, where found), characteristics of young.	407 1. Water turtle, recognition, activities, where to find it, abundance, appearance, parts, adaptations, food, method of obtaining food, eggs (number, size, shape, color, texture, where found), characteristics of young.	507 1. Alligator, recognition, activities, where to find it, abundance, appearance, parts, adaptations, food, method of obtaining food, eggs (number, size, shape, color, texture, where found), characteristics of young, range, use to nature, relation to man's interests. 2. Giant land turtle, (outline as for topic 1).	607 1. Snakes, as friends and foes (the three poisonous snakes of the United States and three beneficial ones of the locality), recognition, activities, where to find them, abundance, appearance, parts, adaptations, food, method of obtaining food, eggs (number, size, shape, color, texture, where found), characteristics of young, range, how they spend winter, use to nature, relation to man's interests, control or protection, first-aid for poisonous snake bite. 2. Turtles, review work of third and fourth grades, range, how they spend winter, use to nature, relation to man's interests, protection, laws concerning useful species.
WILD PLANTS	8 1. Fall wildflowers, at least two common to locality,	108 1. Fall wildflowers, at least two new ones common to	208 1. Fall wildflowers, at least three new ones common	308 1. Fall wildflowers, at least four new ones common to	408 1. Fall wildflowers, at least five new ones common to	508 1. All wildflowers studied in lower grades, review	608 1. Conservation of Christmas greens, review four

	(outline as for topic 1).	2. Fall coloring in wildflowers. 3. Conservation of one Christmas green, (holly in East, toyon or California holly in West), recognition, where found, need of protection, use of a substitute. 4. Spring wildflowers, of lawns and vacant lots at least two new ones common to the locality, recognition, where found, abundance. 5. Coloring in spring wildflowers.	2. Fall coloring in wildflowers. 3. Conservation of one Christmas green (ground pine in the East, Oregon grape in the West), recognition, where found, need of protection, use of a substitute. 4. Spring wildflowers, at least three new ones common to locality. (outline as for topic 1) 5. Spring coloring in wildflowers. 6. "Outdoor good manners" in regard to wildflowers: a. Always leave the leaves and roots. b. Pick only a few leaving most on the plant. c. Pick none of the kinds that are scarce.	seed dispersal, life cycle. 2. Conservation of one Christmas green (laurel in the East, holly-leaved cherry in the West), (outline as for topic 1), need of protection, use of a substitute. 3. Spring wildflowers, at least four new ones common to the locality, (outline as for topic 1). 4. The right way to gather wildflowers, a. Always leave the leaves and roots. b. Pick only a few, leaving others to make seed. c. Pick none of the kinds that are scarce. 5. Ferns, recognition of the group, where to find them, abundance.	2. Conservation of one Christmas green (winterberry in East, salal or coast huckleberry in West), (outline as for topic 1), need of protection, use of a substitute. 3. Spring wildflowers, at least five new ones common to the locality, (outline as for topic 1). 4. Kinds of places in which wild-flowers grow. 5. Wildflower protection, three classes of wildflowers) those which may be picked, (a) freely, (b) in moderation, (c) not at all. 6. "Outdoor good manners" toward wildflowers (see second grade outline topic 6). 7. Mushrooms, recognition of the group, where they grow, abundance, danger in eating them— Note: Children should be given a general warning and no attempt made to teach them to differentiate. 8. Bracket fungus, recognition, where it grows, abundance.	pollination, seeds, seed dispersal, life cycle. 3. Comparison of a composite with a simple flower. 4. Lichens, recognition, where found, abundance.	of protection, use of substitutes. 2. Wildflower protection, flowers as forest ground cover, why protection is needed, three classes of wildflowers (those which may be picked (a) freely, (b) in moderation, (c) not at all), special protection of dogwood. 3. Moss, recognition of the group, where found, abundance. 4. Laws concerning fungi.
CULTIVATED PLANTS	9 1. Fall garden flowers, at least two common to the locality, recognition. 2. Color in fall flowers. 3. Spring garden flowers, at least two common to the locality, recognition. 4. Color in spring flowers.	109 1. Fall garden flowers, at least two new ones common to locality, recognition of whole plant, flower color. 2. Spring garden flowers, at least two new ones common to locality, recognition of whole plant, flower color. 3. Change of flowers to seed pods, (observation only).	209 1. Fall garden flowers, at least three new ones common to the locality, recognition of whole plant, flower color. 2. Spring garden flowers, at least three new ones common to the locality, recognition of whole plant, flower color. 3. Flower visitors, wind and insects, special observation of bees on flowers, simple story of pollination.	309 1. A fall garden flower, recognition of whole plant, duration of plant, roots, stems, leaves, flowers (general nature, parts), pollination, seeds, seed dispersal, life cycle. 2. Flowering shrubs or trees, recognition of whole plant, duration of plant, stems, leaves, flowers, (general nature, parts), pollination, seeds, seed dispersal, life cycle. 3. Fruit blossoms, at least two (cherry and peach suggested), parts of the flower, pollination, fruits, seeds, seed dispersal.	409 1. All garden flowers studied in lower grades, recognition of whole plant, duration of plant, roots, stems, leaves, flowers, (general nature, parts), pollination, seeds, seed dispersal, life cycle. 2. A simple flower, parts, pollination, seed formation, seed dispersal. 3. A composite flower, parts, pollination, seeds, seed dispersal, compare simple flower. 4. Poinsettia, (Christmas lesson), (outline as for topic 1). 5. Fruit blossoms, at least four new ones, parts of the flower, pollination, fruits, seeds, seed dispersal.	509 1. Dahlia, recognition of whole plant, duration of plant, roots, stems, leaves, flowers (general nature, parts), pollination, seeds, seed dispersal, life cycle, insects found on plant, range, cultivation, story of its development. 2. Chrysanthemum, (outline as for topic 1). 3. Cultivated flowers of the locality, at least two, (outline as for topic 1).	609
PLANTS IN GENERAL	10 1. Seed germination. 2. Vegetables, at least four, recognition, where they grow, part eaten.	110 1. Parts of a plant, their names and use to man as food, a. Plants whose fruits are eaten, trees, vines, bushes, vegetables. b. Plants whose roots are eaten. 2. Seed travelers, at least eight, recognition, where found, how they travel.	210 1. Seed travelers, at least ten, recognition, where found, helpers that carry them. 2. Things which plants need to grow—food, water, warmth, light, air. 3. Plant forms: vines, shrubs, flowers without woody stems, trees, grasses, water plants. 4. Parts of a plant, their names and use to man as food, a. Review first grade work, b. Plants whose seeds are eaten, c. Plants whose leaves are eaten, d. Plants whose stems are eaten.	310 1. Seed travelers, at least twelve, recognition, where found, devices for traveling. 2. Weeds of the garden and lawn, at least six, recognition of whole plant, duration of plant, roots, stem, leaves, flowers (general nature, parts), pollination, seeds, why it is so successful, how to get rid of it. 3. Fruits which are food for winter birds, at least six, recognition of fruits, recognition of plants on which they grow, where they grow. 4. Types of fruits, true berries, other berry-like fruits, stone fruits, core fruits, citrus fruits, melons. 5. Fruit orchards, recognition of at least three kinds of fruit trees, kinds of places suited to each, blossom time, harvest.	410 1. Duration of plants, plants that live one season, two years, many years. 2. Parts of plants and work of each, obvious facts only. 3. Water plants, at least two common to locality (arrow leaf, pickerel weed, yellow water lily, marsh marigold suggested), recognition, where it grows, duration of plant, roots, stem, leaves, flowers, pollination, seed development, life cycle. 4. Corn plant, recognition, where it grows, duration of plant, roots, stem, leaves, flowers, pollination, seed development, life cycle. 5. Poisonous plants of the neighborhood, recognition, where they grow, first-aid in case of poison.	510 1. Weed enemies of the garden, at least six new ones, recognition, duration of plants, roots, stems, leaves, flowers, pollination, seeds, seed dispersal, life cycle, insects found on plant, range, use to nature, relation to man's interests, control.	610 1. Plant adaptations: a. Leaf arrangement—opposite and alternate leaves. b. Leaf form—simple and compound leaves. c. Various devices for seed dissemination. d. Devices for capturing insect prey (pitcher plant, sundew). e. Storage roots, tubers, and root stocks (carrot, potato and onion suggested). f. Plants that live on other plants (as dodder, mistletoe,, and Indian pipes). g. Special devices for breathing, land plants, water plants.
TREES	11 1. Autumn leaves, color and shape. 2. Tree seed germination. 3. Christmas tree, recognition. 4. Opening buds (observation only).	111 1. Meaning of word "fall." 2. Autumn leaves, colors and shapes. 3. Fall appearance of "the class tree." 4. Winter appearance of "the class tree." 5. The Christmas tree, recognition, comparison of appearance with class tree, the right way the get one. 6. Other evergreens, at least three, both broad and narrow leaves, recognition, where they grow, abundance. 7. Winter buds, how they look. Do all trees have them? 8. Opening buds. What does the bud contain? 9. Germination of tree seeds. What does each contain? 10. Uses of wood in the classroom.	211 1. Nut tree, at least one, recognition, where it grows, abundance, what nut trees do for man and animals. 2. Neighborhood trees in the fall, at least two, recognition, parts of a tree and their obvious uses to the tree. 3. Autumn coloring. 4. Winter appearance of neighborhood trees, the two studied in the fall. 5. Evergreens (Christmas trees), special study of one, comparison of two others, recognition, where they grow, abundance. 6. Tree planting—a Christmas tree for the school. 7. Opening buds, two conspicuous varieties, (pussy-willow and horse chestnut suggested), recognition, compare opening buds of two trees studied in fall, length of time buds have been on trees. 8. Colors of young leaves.	311 1. Neighborhood trees, at least four new ones, recognition, where they grow, abundance, size and shape, bark, leaves, roots, trunk, branches, twigs, and buds, wood, (nature and use), flowers and pollination, fruit, seed distribution. 2. Things trees need to grow: air, light, food, water, warmth. 3. Evergreens, special study of one, comparison of another, (outline as for topic 1). 4. Opening buds. 5. Spring awakening of the forest, community life of the forest, reasons why we love the woods. 6. Trees in bloom (observation only). 7. How to transplant a tree (Arbor Day Exercise). 8. Changes in trees throughout the year.	411 1. Neighborhood trees, at least four new ones, recognition, where they grow, abundance, size and shape, bark, leaves, roots, trunk, branches, twigs, buds, wood, (nature and use) flowers, pollination, fruit, seed distribution. 2. Protection and care of shade trees. 3. Forest trees, at least three, (outline as for topic 1) 4. Uses of wood indoors and out. 5. Forest protection, conservation of natural beauty, outdoor good manners as to picnic and camp rules, as to matches, tobacco, making camp, breaking camp, brush burning, putting out camp fires. (Copy of rules to be had of the U. S. Forest Service, Department of Agriculture, Washington, D. C., or any District Office.) 6. Work of the forest ranger. 7. Leaves as a necessity to the life of the tree. 8. Life cycle of a tree. 9. Tree nursery.	511 1. Neighborhood trees, review of all studied in lower grades, recognition, where they grow, abundance, size and shape, bark, leaves, roots, trunk, branches, twigs, buds, wood (nature and use), flowers and pollination, fruit, seed distribution, range, enemies and their control, use to man. 2. Forest trees, at least three new ones, review of all studied in lower grades, (outline as for topic 1). 3. Evergreens, review of all studied in lower grades, (outline as for topic 1). 4. Seasonal changes in trees of the neighborhood.	611 1. Relation of forests to human life. 2. Friends and enemies of the forest, emphasis on protection from fire, laws, concerning forest fires, picnic and camp rules—(copy of rules to be had from U. S. Forest Service, Department of Agriculture, Washington, D. C. or any District Office.) 3. How trees grow. 4. Christmas trees, why it is right to have one, the right way to get one, where the supply comes from, laws concerning transportation of Christmas trees during quarantine. 5. Forest trees, at least four new ones, recognition, where they grow, abundance, size and shape, bark, leaves, roots, trunk, branches, twigs, buds, wood (nature and use), flowers, pollination, fruit, seed distribution, range, enemies and their control, use to man. 6. Special uses of wood of each tree studied. 7. Tree propagation, seed planting, grafting, budding. 8. How to transplant a tree.
GARDENING	12 1. How to plant a bulb. 2. Germination of seeds. 3. School garden, how to plant a seed. 4. Home garden, how to plant a seed.	112 1. The work of the gardener and farmer for man. 2. Seeds as a necessity for next season's garden. 3. What lives inside a bulb? 4. How plants may be grown from cuttings. 5. What plants need to grow: fine soil, food, warmth, moisture, light. 6. Care needed by plants and bulbs. 7. The school garden, egg shells and window boxes indoors, community plot outdoors. 8. The home garden, one kind of seed. 9. Protection and care of plants, cultivating and watering individual plants.	212 1. How seeds are obtained for gardens. 2. The fall vegetable harvest. 3. What lives inside of bulbs? 4. Land plants that will live in water. 5. What plants need to grow: food, moisture, warmth, air, light. 6. Plants that grow from bulbs. 7. The school garden, egg shells and window boxes indoors, outdoor community plot. 8. The home garden, one kind of seed. 9. Care of gardens during spring and summer.	312 1. How seeds are obtained for next year's planting. 2. Vegetable harvest. 3. How to transplant flowers. 4. Depth of seed planting. 5. Use of cotyledon to seedling. 6. School gardens, egg shells and window boxes indoors, community plots outdoors. 7. How to plan a home garden. 8. How to plant a home garden. 9. Cultivation of plants.	412 1. Vegetable and seed harvest. 2. Parts of vegetable plants used as food. 3. Storage roots, in vegetables. in weeds, how to control weeds. 4. Indoor winter flower garden, window boxes and pots, root division. 5. How to plant bulbs, multiplication by bulblets. 6. How to care for plants indoors. 7. The kind of soil best for plants. 8. How a mulch helps the garden. 9. How to raise young plants indoors or in a cold frame for an early garden. 10. How to transplant vegetables. 11. The school garden, outdoor community plots. 12. The home garden. 13. Identification of seedlings and weeds.	512 1. Study of fall garden plants. 2. How to harvest and store seeds. 3. How to plant bulbs. 4. Indoor winter flower gardens, seeds and cuttings. 5. The school garden, (individual plots), how to plant it, how to prepare the soil, how to lay it off, how to plant, cultivate, weed, thin, and transplant, what and when to plant as second crops. 6. The home garden.	612 1. How to harvest crops. 2. How to market crops. 3. How to clean up a garden in the fall. 4. How to prepare the soil in the fall. 5. The winter cover crop. 6. What good citizens should do to improve their home town, home gardens, improved lawns, conservation of beauty in the home neighborhood, and in the open.
PHYSICAL NATURE STUDY ROCKS AND SOIL	13	113	213	313	413 1. Common building stones, at least four, recognition and use.	513 1. How rocks were made, with special study of the underlying rock of the locality, fire formed rocks, rocks formed by water and pressure rocks formed by change. 2. How rocks are changed to soil. 3. Kinds of soils, sand, clay, loam. 4. How to keep garden soil in condition for growing plants.	613
SKY AND WEATHER	14 1. Signs of autumn. 2. Snow, enjoyment of it, crystals. 3. March winds. 4. April showers. 5. Signs of spring.	114 1. Signs of autumn, temperature, shortening days, activities of the birds and animals occasioned by season, changes in plants occasioned by season. 2. Weather calendar. 3. Beauty of sky in its various moods. 4. Snow crystals, how they look. 5. Frost pictures, how they look. 6. March winds, how they feel, what they do. 7. April showers, what they are like, what they do for plants and flowers. 8. Characteristics of the seasons.	214 1. Temperature, gradual change from week to week. 2. Wind, varying force, uses of the wind. 3. Clouds, color, shape, and size. 4. Sky colors.	314 1. How to read a thermometer. 2. Rain, rain clouds, pleasures of a rainy day, beneficial effects of rain, the rainbow. 3. Dew, where it is found, when it is found, differences in quantity, effects of dew. 4. Frost, where seen, when found, differences in quantity and appearance, effects of frost.	414 1. Winds, kinds of winds (varying force), direction, effects of winds on weather. 2. Snow, how snow crystals look, varying depths of snowfalls, snowdrifts, what snow does for earth. 3. Ice, where found, condition under which it forms, effects of freezing.	514 1. Charateristics of the seasons, time of sunrise and sunset. 2. Clouds, kinds: summer clouds, (storm clouds), wind clouds, heavy rain clouds, stratus clouds, how clouds are formed. 3. Mist, where seen, when seen, what causes mist. 4. Fog. where seen, when seen, what causes fog. 5. Sky colors.	614 1. Causes of weather variations, what causes rain, why the winds blow. 2. How to read a weather map. 3. How the Weather Bureau helps us.
STAR STUDY	15 1. Milky Way. 2. Big dipper. 3. Moon, new, half, and full. 4. Sun's help to us.	115 1. The dippers. 2. Moon, new, half, and full. 3. Sun, what it does for the earth.	215 1. The North star and the dippers. (Review). 2. Moon, new, half, and full. (Review). 3. Sun, importance to our earth.	315 1. Orion and the dog stars. 2. Sun, its importance to our earth.	415 1. What stars are (Suns). 2. The Milky Way, what it is, where it is, number of stars in it. 3. Myths concerning the Milky Way.	515 1. Life story of a star told by variations in size and color. 2. Comets and meteors. (These suggestions may be followed in schools where time permits or omitted if gardening occupies the major part of the time allotted to the fifth grade Nature Study).	615 1. Reasons for star study. 2. What stars are. (Review the life story of a star). 3. Our sun, its relation to life on earth. 4. First magnitude stars, choose any six. 5. Polar constellations. 6. Other constellations of the northern hemisphere, at least four in winter, at least four in summer. 7. Moon, phases, physical conditions on the moon, effect of moon upon life on earth. 8. Planets, theories of formation, size, position and interesting facts about each. 9. Eclipses of sun and moon. 10. Comets and meteors.
TOYS, INVENTIONS, ETC. No reference should be made to the scientific principles illustrated except in answer to questions from the children, which the teacher must at all times be fully prepared to meet.	16 1. Paper pin-wheel. 2. Human preparation for winter, mother's canning, etc. 3. Help we get from other people, storekeepers, farmers (food and clothing), baker, weaver, tailor, shoemaker.	116 1. Swing, hammock, sled, pendulum, falling objects, tumbling down, sliding down hill (illustrating gravity). 2. Sea-saw, scales (illustrating balance).	216 1. Rubber ball, rubber band, bow and arrow (illustrating elasticity). 2. Bat and ball, tennis racquet and ball, golf club and ball, marbles, hoops (illustrating transfer of energy). 3. Leather sucker, siphon, inverted glass of water (illustrating air pressure).	316 1. Magnets and iron filings, (illustrating magnetism). 2. Comb rubbed with silk and bits of paper, glass plate rubbed with silk and tissue paper dolls, (illustrating frictional electricity). 3. Whistle, (illustrating sound and pitch).	416 1. Tops, giantstride, spinning tables at amusement parks, (illustrating centrifugal force). 2. Water wheel, (illustrating water power). 3. Kites, sailboats, windmills, (illustrating power of moving air). 4. Weight of air, (proving that it is a real substance). 5. Hot air balloons, soap bubbles, (illustrating that heated air is lighter than cold air).	516 1. Tin can telephone, (illustrating sound vibrations in the air). 2. Local water supply, (germs and filtration). 3. Local milk supply, (testing and pasteurization).	616 1. Electric bell. 2. Telegraph. 3. Electric telephone. 4. Radio. 5. Methods of producing fire, ancient and modern conditions under which fire burns, how to mak camp fires for different purposes.

In developing the statements of Activities and Experiences, the committee prepared statements for all grades from the kindergarten through the sixth. Space permitted the inclusion in the Yearbook of statements of activities for only the kindergarten, second and half of the fourth and sixth grades.

KINDERGARTEN

Statement of Pupil Activities and Experiences

BATRACHIANS

Activities and Experiences Fulfilling Quantitative Objectives. 1.[1]

1. Watching frogs out of doors—1, 6, 7, 9, 15c, 18, 20a, 20c, 21, 22, 30, 46, 55b, c, d, 57, 58.
2. Watching a frog in the frog aquarium or terrarium—1, 4, 7, 9, 15c, 16, 18, 20a, 20c, 21, 30, 46.
3. Watching frog tadpoles—1, 4, 7, 9, 15c, 16, 18, 20a, c, 22, 30.
4. Finding frog tadpoles out of doors—6, 7, 15c, 20c, 21, 55b, 60, 66.

BIRDS

Activities and Experiences Fulfilling Quantitative Objectives. 2.

1. Watching pigeons in the street—1, 4, 6, 7, 12, 15c, 18, 20a, 21, 22, 55c, 57.
2. Bringing pet pigeons to school—23, 24.
3. Watching pigeons in school—1, 4, 7, 9, 12, 15c, 18, 20a, 21, 22.
4. Visiting pigeon loft to see activities of pigeon family—1, 4, 7, 15c, 16, 18, 20a, 21, 42, 55e.
5. Listening to story of carrier pigeon—7, 9, 15c, h, 16, 19.
6. Solving the problem—What can children do to help birds in cold weather?
    a. Discovering whether or not it is easy for birds to find food in winter—14, 17, 20a, 20e.
    b. Feeding winter birds—1, 2, 3, 4, 6, 7, 9, 10, 22, 29, 36, 40, 52.
7. Watching birds common to school neighborhood—1, 6, 7, 9, 12, 15c, 16, 18, 20a, 21, 22.
8. Finding pictures of these birds—16, 62.
9. Listening to bird calls—6, 7, 14, 15c, g, 21, 22, 55c, 61.
10. Imitating sounds made by birds—7, 15c, g, 26, 61.
11. Watching nest building—1, 4, 5, 6, 7, 15c, 16, 18, 20a, 21, 22, 42, 55c, e.
12. Caring for hen and chickens in schoolroom—1, 2, 3, 4, 5, 9, 10, 15c, 16, 18, 21, 22, 23, 24, 28, 29, 30, 36, 42, 55e, 67.
13. Watching and discussing hen and chickens—1, 2, 3, 7, 14, 15c, 16, 18, 21, 22, 26, 32, 42.
14. Watching a pet bird in the schoolroom—1, 7, 9, 12, 15c, 16, 18, 20a, 21, 22.

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[1] See last paragraph on page 71 for explanation of the figures following activities of this section.

15. Helping to care for a pet bird in the schoolroom—1, 2, 3, 4, 5, 7, 9, 10, 15c, 16, 17, 21, 22, 23, 28, 29, 30, 36.
16. Imitating movements of birds—1, 2, 3, 4, 6, 14, 15c, 16, 17, 18, 26, 58, 66.

FISH

Activities and Experiences Fulfilling Quantitative Objectives. 3.

1. Helping to make an aquarium—1, 2, 3, 7, 11, 15c, 20a, 21, 22, 23, 29, 37.
2. Watching goldfish in the aquarium—1, 4, 5, 7, 9, 12, 15c, 16, 18, 20a, 21, 57.
3. Talking about what the goldfish does and how it looks—1, 2, 3, 12, 15c, 16, 19, 26, 32, 58.

INSECTS

Activities and Experiences Fulfilling Quantitative Objectives. 4.

1. Collecting caterpillars for the insect cage—15c, 16, 17, 18, 20c, 22, 23, 30, 57.
2. Feeding caterpillars—1, 2, 3, 5, 10, 15c, 20c, 22, 23, 24, 28, 30.
3. Watching and discussing the activities of caterpillars—1, 2, 3, 15c, 26, 32, 58.
4. Comparing abundance of caterpillars at opening of school and at Thanksgiving—1, 2, 3, 15c, 16, 17, 18, 20a, 20c, 39.
5. Solving the problem—Where is the best place to look for a bee?
    Watching bees out of doors—1, 4, 6, 7, 9, 12, 15c, 20a, 20c, 21, 22, 66.
6. Solving the problem—What sleeps inside a cocoon or chrysalid?
    Watching to see what comes from cocoons and chrysalids in the spring—1, 6, 7, 9, 12, 15c, 16, 17, 18, 19, 20a, 21, 22.

OTHER INVERTEBRATES

Activities and Experiences Fulfilling Quantitative Objectives. 5.

1. Watching water snail in the aquarium—1, 7, 9, 14, 15c, 16, 18, 20a, 21, 22, 30, 57.
2. Talking about what the snail does, how it does it, and how it looks—1, 2, 3, 15c, 20a, e, 26, 32, 58.
3. Watching a spider make its web—1, 5, 9, 15c, 16, 18, 20a, 21, 22, 57.
4. Feeding spiders in cages in the schoolroom—1, 2, 3, 4, 5, 10, 15c, 17, 20c, 21, 22, 23, 24, 28, 29, 30, 36.
5. Noting the kinds of places in which spider webs and spiders are found—1, 6, 7, 15c, 16, 17, 18, 20a, c.
6. Noting abundance of spiders—1, 18, 20a, 22.

MAMMALS

Activities and Experiences Fulfilling Quantitative Objectives. 6.

1. Watching squirrels out of doors—1, 4, 5, 6, 7, 9, 12, 15c, 16, 17, 18, 20a, 21, 55c, 57.
2. Feeding squirrels—1, 2, 3, 4, 5, 9, 10, 12, 15c, 20c, 21, 22, 23, 24, 29, 30, 37, 55c.
3. Bringing pet rabbits to school—23, 24.
4. Helping to care for rabbits in school—1, 2, 3, 4, 5, 10, 15c, 17, 20c, 21, 22, 23, 24, 28, 29, 30, 36, 37.
5. Imitating movements of squirrels and rabbits—1, 2, 3, 4, 6, 15c, 16, 17, 18, 26, 58, 66.
6. Visiting a farm to see the animals—1, 4, 6, 7, 15c, k, 16, 18, 21, 22, 30, 55b, c, d, 60.
7. Visiting the zoo or watching the circus parade—1, 4, 7, 15c, 16, 18, 19, 20a, c, 21, 22, 60.
8. Imitating movements of farm animals—1, 2, 3, 4, 6, 15c, 16, 17, 18, 26, 39, 58, 66.
9. Imitating movements of animals of zoo or circus—1, 2, 3, 4, 6, 15c, 16, 17, 18, 26, 39, 58, 66.

REPTILES

Activities and Experiences Fulfilling Quantitative Objectives. 7.

1. Solving the problem—How does a turtle's shell help him?
    a. Looking for turtles out of doors—1, 6, 7, 9, 15c, 18, 20a, 20c, 21, 22, 30, 46, 55c, 57.
    b. Watching a turtle in the schoolroom—1, 4, 7, 9, 15c, 16, 17, 18, 20a, c, 21, 22, 30, 46.
    c. Helping to care for a turtle in the schoolroom—1, 2, 3, 4, 5, 9, 10, 15c, 16, 18, 21, 22, 23, 28, 29, 30.
    d. Discussing why the turtle needs his shell—1, 5, 19, 20e, 26, 58.

WILD PLANTS

Activities and Experiences Fulfilling Quantitative Objectives. 8.

1. Taking a walk to see wildflowers of the neighborhood—6, 7, 9, 12, 15b, k, 16, 18, 20a, 21, 55b, c, d, 57, 59, 60, 66.
2. Gathering wildflowers (pick only those listed by the Wildflower Preservation Society as being very plentiful)—1, 2, 3, 6, 7, 12, 15b, 21, 22, 23, 24, 28, 43, 49.
3. Watching for the first spring wildflowers—6, 7, 9, 12, 15b, k, 16, 18, 20a, 25, 55c, 59, 66.

CULTIVATED FLOWERS

Activities and Experiences Fulfilling Quantitative Objectives. 9.

1. Visiting the garden or lawn to learn to know three fall flowers—6, 7, 9, 12, 15b, 16, 18, 20a, 21, 55b, c, d, 57, 59, 60, 66.
2. Taking a walk to see flowers in the park—6, 7, 9, 12, 15b, k, 16, 18, 20a, 21, 55b, c, d, 57, 59, 60, 66.
3. Gathering flowers for the fall table—4, 15b, 22, 23, 24, 29, 38.
4. Arranging flowers for schoolroom decoration—11, 22, 23, 24, 29, 38.
5. Keeping cut flowers supplied with water—1, 2, 3, 4, 10, 15b, 17.
6. Comparing color in fall garden flowers—12, 15b, i, 18, 21, 58.
   (Repeat unit in spring.)

PLANTS IN GENERAL

Activities and Experiences Fulfilling Quantitative Objectives. 10.

1. Solving the problem—What sleeps in the heart of a seed?
   - a. Collecting seeds—6, 7, 15b, 16, 21, 22, 23, 24, 55b, c, d.
   - b. Sprouting seeds to see the young plants come out—1, 2, 3, 5, 8, 9, 15b, 16, 18, 20a, e, 35, 55e, 59.
2. Solving the problem—What are some of the parts of plants which we eat?
   - a. Visiting the market to learn to recognize at least four vegetables—4, 15b, 16, 18, 20a, 60.
   - b. Visiting a garden to see where they grow—4, 6, 7, 15b, d, 16, 18, 20a, 60.
   - c. Discussing the parts of vegetables eaten—1, 4, 15b, 16, 20e.

TREES

Activities and Experiences Fulfilling Quantitative Objectives. 11.

1. Playing in autumn leaves—6, 7, 12, 15b, 21, 55d, 58, 66.
2. Making nests in leaves—6, 7, 15b, 21, 55d, 58, 66.
3. Gathering tree leaves and seeds, and taking them to mother or teacher for stories about them—6, 7, 15b, L, 19, 31.
4. Sorting leaves according to color, according to shape—6, 7, 12, 15b, i, 18, 20e, 22, 23.
5. Making a border of leaves and tree seeds which belong with them—1, 2, 3, 7, 12, 15b, i, 18, 23, 31.
6. Solving the problem—What sleeps in the heart of a tree seed?
   - a. Collecting tree seeds—6, 7, 15b, 16, 22, 23, 24, 55b, c, d.
   - b. Sprouting tree seeds to see the young trees come out—1, 2, 3, 4, 5, 7, 8, 9, 12, 15b, 16, 18, 20a, e, 22, 25, 35, 55e, 59.
7. Learning to recognize the evergreen used as a Christmas tree—6, 7, 12, 15b, 16, 18, 22.

8. Comparing the appearance of Christmas trees with trees outdoors—1, 6, 7, 12, 15b, 16, 18, 20e, 22.
9. Solving the problem—What is inside of a bud?
   a. Bringing in sprays with winter buds on them—6, 7, 15b, 22, 23, 24.
   b. Watching buds to see them take off their winter coats—1, 5, 7, 15b, 16, 18, 20a, e, 25, 59.

GARDENING

Activities and Experiences Fulfilling Quantitative Objectives. 12.

1. Solving the problem—What sleeps inside a bulb?
   a. Planting bulbs for winter in bowls on window boxes—1, 2, 3, 7, 15b, 16, 21, 22, 23, 24, 29, 31.
   b. Watching plants develop from bulbs—1, 5, 7, 8, 9, 12, 15b, 16, 18, 20a, 21.
2. Solving the problem—What sleeps inside a seed?
   Sprouting seeds to see little plants come out—1, 2, 3, 4, 5, 7, 8, 9, 12, 15b, 16, 18, 20a, e, 21, 22, 25, 35, 55e, 59.
3. Solving the problem—How to make a garden.
   a. Ordering penny seed packets—23, 24.
   b. Planting seeds in community school garden—1, 2, 3, 7, 11, 15b, 16, 21, 22, 23, 24, 37, 53, 55b, c, d, 57, 65, 66, 67, 70.
   c. Planting seeds in home gardens—1, 2, 3, 7, 11, 15b, 16, 21, 22, 23, 24, 41, 53, 55b, c, d, 57, 65, 66, 67, 70.
   d. Caring for plants—1, 2, 3, 7, 10, 11, 15b, 16, 17, 22, 23, 24, 41, 53, 55b, c, d, 57, 65, 66, 67, 70.

SKY AND WEATHER

Activities and Experiences Fulfilling Quantitative Objectives. 14.

1. Solving the problem—What are the signs of autumn?
   a. Looking for the signs of the season—1, 4, 6, 9, 12, 15d, k, 17, 20a, e, 21, 22, 31, 57, 66.
   b. Talking about signs of the season from day to day—26, 32, 58.
2. Looking at snow crystals through a magnifying glass—1, 7, 8, 9, 12, 15d, 16, 18, 20a, 21, 22, 31, 57, 66.
3. Looking at pictures of snow crystals—1, 12, 15i, 62.
4. Noticing effect of March winds and April showers—1, 4, 6, 7, 8, 9, 15d, 16, 18, 19, 20a, e, 21, 22, 31, 57, 66.
5. Noticing increasing length of days—1, 4, 6, 7, 8, 9, 15d, 16, 18, 20a, e, 21, 22, 31, 57, 66.
6. Discussing the signs of spring—1, 2, 3, 4, 8, 9, 15d, 16, 18, 26, 32, 58.
7. Looking at pictures showing characteristics of the four seasons—1, 12, 15d, 15i, 62.

STAR STUDY

Activities and Experiences Fulfilling Quantitative Objectives. 15.

1. Looking at stars—1, 7, 8, 9, 12, 15f, 16, 19, 21, 22, 31, 57, 66.
2. Looking for Milky Way with help of father or mother—1, 7, 8, 9, 12, 15f, 16, 19, 21, 22, 31, 66.
3. Looking for Big Dipper with help of father or mother—1, 7, 8, 9, 12, 15f, 16, 19, 21, 22, 31, 66.
4. Looking for moon, new, half, and full—1, 7, 8, 9, 12, 15f, 16, 20a, 21, 22, 31, 66.
5. Solving the problem—What does the sun do for us?
    a. Talking about the sun's help to us—1, 2, 3, 4, 5, 7, 8, 9, 15f, 16, 20a, e, 26, 32, 34, 58.
    b. Beginning to tell time with sun dial, and lengthening shadows—1, 4, 5, 15f, 16, 20a, e, 22.

TOYS, INVENTIONS, ETC.

Activities and Experiences Fulfilling Quantitative Objectives. 16.

1. Making paper pin-wheels—15d, 17, 20a, e, 22, 23, 24, 28, 31, 35, 57, 59.
2. Running with them to see them go round—5, 15d, 17, 20a, e, 22, 23, 24, 28, 31, 35, 57, 59.
3. Placing them in open window to see them go round—5, 15d, 17, 20a, e, 22, 23, 24, 28, 31, 35, 57, 59.
4. Solving the problem—What does mother do to prepare the home for winter?
    Reporting mother's canning, getting out heavy clothing, putting down rugs and carpets, etc.—1, 2, 3, 4, 5, 15a, d, 16, 18, 20a, e, 25, 26, 32, 34, 58.
5. Solving the problem—What do other people do to help us?
    a. Visiting farmer and baker—1, 4, 7, 15a, 15d, 15j, 16, 18, 19, 20a, e, 21, 25, 31.
    b. Talking about what they do for us—1, 4, 15a, d, 20e, 26, 32, 49, 58.
    c. Helping to make bread—3, 15d, 16, 17, 20a, 21, 23, 24, 37.
    d. Helping to make butter—3, 15d, 16, 17, 20a, 21, 23, 24, 37.
    e. Visiting the storekeeper, tailor, and shoe maker—1, 4, 7, 15a, d, j, 16, 18, 19, 20a, e, 21, 25, 31.
    f. Discussing what they do for us—1, 4, 15d, 20e, 26, 32, 34, 49, 58.

SECOND GRADE

BIRDS

Activities and Experiences Fulfilling Quantitative Objectives. 202.

1. Listing birds seen during the summer—1, 2, 3, 6, 7, 12, 14, 15c, 16, 17, 18, 20a, 21, 22, 23, 31, 39, 58, 60.
2. Keeping a bird calendar—1, 2, 3, 6, 7, 15c, 16, 17, 18, 20a, 21, 22, 23, 25, 29, 31, 37, 39, 57, 58, 59, 65, 66.
3. Reporting activities of birds seen and places in which they were seen—1, 2, 3, 6, 7, 8, 9, 10, 15c, 16, 17, 18, 20a, c, 21, 23, 25, 26, 27, 31, 32, 39, 57, 58, 59, 60, 65, 66.
4. Solving the problem—What becomes of the many birds of summer? Do any stay with us?
    a. Outdoor trips to observe number of birds to be seen from time to time—4, 5, 6, 7, 15c, k, 16, 17, 18, 19, 21, 22, 25, 31, 37, 55b, c, d, 59, 60, 66.
    b. Watching migrating flocks—4, 5, 6, 7, 8, 9, 15c, 16, 17, 18, 21, 22, 23, 25, 31, 55b, c, d, 59, 66.
    c. Watching to see whether any birds remain—4, 5, 6, 7, 15c, 16, 17, 18, 20a, 22, 23, 25, 31, 55b, c, d, 57, 59, 66.
5. Observation of a few deserted nests brought in by the teacher—4, 7, 8, 12, 14, 15c, 16, 17, 18, 20a, 22, 31, 57.
6. Solving the problem—What can we do for the comfort of domestic fowls?
    a. Caring for a caged domestic fowl—1, 2, 3, 4, 5, 7, 9, 10, 16, 17, 20a, c, 22, 23, 24, 28, 29, 30, 36, 37, 39, 44, 57, 67, 70.
    b. Watching a domestic fowl—4, 6, 7, 9, 12, 14, 15c, 16, 17, 18, 20a, c, 21, 22, 31, 55b, c, d.
7. Bringing pet birds from home for study—23, 24.
8. Caring for and watching a pet bird—1, 2, 3, 4, 5, 7, 9, 10, 15c, 16, 17, 18, 19, 20a, 20c, 21, 22, 23, 24, 25, 28, 29, 30, 31, 36, 37, 57, 67, 70.
9. Solving the problem—How can we help winter birds?
    a. Outdoor observation of winter birds—4, 6, 7, 12, 15c, 16, 17, 18, 21, 22, 31, 55b, c, d, 59, 66.
    b. Making special study of winter birds of the neighborhood—4, 5, 6, 7, 12, 14, 15c, 16, 17, 18, 19, 20a, 21, 22, 31.
    c. Looking to see what winter birds may find to eat—5, 7, 16, 17, 18, 20a, c, 22, 23, 25, 55b, c, d, 59, 66.
    d. Making a Christmas tree for the birds—1, 2, 3, 4, 5, 7, 9, 10, 16, 20c, 22, 23, 24, 28, 31, 35, 36, 37, 52, 66.
10. Observation of birds returning in spring—5, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 19, 20a, c, 25, 31, 55b, c, d, 59, 66.
11. Special study of two common to the neighborhood—4, 5, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 20a, c, 21, 22, 58.

12. Solving the problem—Can we recognize a bird without seeing it?
    a. Listening to sounds made by chickens—6, 7, 15c, g, 16, 17, 18, 20a, 21, 22, 31, 55c, d, 57, 59, 61, 66.
    b. Listening to bird songs, victrola records, and good imitations of bird songs—6, 7, 8, 9, 15c, g, 16, 17, 18, 20a, 21, 22, 31, 55c, d, 57, 59, 61, 66.
    c. Trying to imitate bird songs and sounds made by domestic fowls—1, 2, 3, 6, 7, 16, 17, 18, 26, 31, 57, 58, 61, 66.
13. Decorating the schoolroom with bird pictures collected for that purpose—7, 11, 15i, 16, 17, 21, 23, 24, 28, 29, 31, 37, 58, 62.

FISH

Activities and Experiences Fulfilling Quantitative Objectives. 203.

1. Helping to make an aquarium—1, 2, 3, 4, 5, 7, 10, 11, 16, 17, 20a, c, 21, 22, 23, 24, 28, 29, 31, 35, 37, 49, 57, 59, 70.
2. Solving the problem—How is a goldfish like a child? How is it different from a child?
    a. Watching the goldfish—5, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 20a, 21, 22, 31, 59.
    b. Feeding the goldfish—1, 2, 3, 4, 5, 6, 7, 9, 10, 16, 17, 20c, 22, 23, 28, 29, 36, 37, 70.
    c. Discussing how it swims, breathes, and eats—1, 2, 3, 5, 16, 17, 20e, 26, 27, 32, 58.
    d. Comparing the goldfish with ourselves—1, 2, 3, 4, 5, 6, 16, 17, 18, 20a, e, 26, 27, 32, 36, 58, 59.

(Repeat this unit with some fish common in local waters and add these activities.)

    e. Noticing the kind of place in which it may be found—4, 5, 6, 12, 14, 15k, 16, 17, 18, 20a, 21, 31, 55b, c, d, 57, 66.
    f. Counting the number seen—1, 2, 3, 7, 16, 17, 18, 27, 39, 59, 66.

INSECTS

Activities and Experiences Fulfilling Quantitative Objectives. 204.

1. Collecting caterpillars for the insect cage—6, 7, 16, 17, 20a, c, 21, 22, 23, 30, 55b, c, d, 57, 59, 66.
2. Reporting the places in which they are found—7, 16, 17, 18, 20a, e, 25, 26, 32, 39, 59.
3. Comparing abundance of different kinds—7, 15c, 16, 17, 18, 20a, e, 25, 26, 58.
4. Bringing fresh food daily of the kind on which the caterpillar was found feeding, and placing it in the cage—1, 2, 3, 4, 5, 6, 9, 10, 16, 17, 18, 20a, c, 22, 23, 28, 29, 30, 37.
5. Watching caterpillars make cocoons and chrysalids—7, 8, 9, 12, 14, 15c, 16, 17, 18, 21, 22, 25, 28, 31, 57, 59, 66.

6. Telling the story of the caterpillar's life cycle as far as it can be observed—1, 2, 3, 8, 9, 16, 17, 18, 19, 20a, e, 26, 32, 58, 59.
7. Collecting other insects for the insect cage—6, 7, 15c, 16, 17, 20a, c, 21, 22, 23, 30, 55b, c, d, 57, 59, 66.
8. Reporting their numbers and kinds of places in which they are found—1, 2, 3, 4, 7, 16, 17, 18, 20a, e, 22, 23, 25, 26, 32, 39, 55b, c, d, 58, 59, 60.
9. Providing fresh food for them daily—1, 2, 3, 4, 6, 9, 10, 16, 17, 20c, 22, 23, 28, 29, 37.
10. Looking to see in which direction insects' jaws move in eating—1, 7, 16, 17, 18, 20a, 21, 22, 27, 31, 66.
11. Watching and discussing what they do and how they look—1, 2, 3, 7, 15c, 16, 17, 18, 20a, e, 21, 22, 26, 31, 32, 39, 58.
12. Listening to sounds made by insects—6, 7, 8, 9, 15c, g, 16, 17, 18, 21, 22, 31, 55b, c, d, 57, 59, 61.
13. Imitating sounds made by insects—1, 2, 3, 6, 7, 16, 17, 18, 20a, 26, 31, 58, 61.
14. Solving the problem—How do insects spend the winter?
    Outdoor trip to look for winter homes of insects—4, 6, 7, 8, 15c, k, 16, 17, 18, 21, 22, 31, 55b, c, d, 57, 59, 60, 66.
15. Solving the problem—What sleeps in a cocoon or chrysalid?
    a. Watching butterflies and moths emerge from chrysalids and cocoons—1, 5, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 20a, c, 21, 22, 25, 31, 55c, d, 57, 59, 66.
    b. Special observation of one moth and one butterfly—1, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 21, 22, 31, 55b, c, d, 59, 66.

OTHER INVERTEBRATES

Activities and Experiences Fulfilling Quantitative Objectives. 205.

1. Watching for spider webs and comparing different types—1, 7, 8, 9, 12, 15c, 16, 17, 18, 20a, e, 21, 22, 25, 31, 55b, c, d, 57, 58, 66.
2. Feeding spiders in the insect cage—1, 2, 3, 4, 7, 8, 9, 10, 16, 17, 20a, b, c, 22, 23, 28, 29, 30, 31, 46, 57.
3. Watching spiders—6, 7, 8, 9, 15c, 16, 17, 18, 20a, b, c, 21, 22, 23, 25, 31, 46, 48.
4. Collecting thousandlegs for schoolroom observation—7, 16, 17, 20a, b, c, 21, 22, 23, 30, 31, 46, 48, 57.
5. Watching and feeding thousandlegs—1, 2, 3, 4, 7, 9, 10, 15c, 16, 17, 18, 20a, b, c, 21, 22, 23, 28, 29, 30, 31, 46, 48.

MAMMALS

Activities and Experiences Fulfilling Quantitative Objectives. 206.

1. Observation of chipmunks outdoors—4, 6, 7, 9, 12, 14, 15c, 16, 17, 18, 20a, 21, 22, 31, 55b, c, d, 59, 66.

2. Reporting on what they do and where to find them—1, 2, 3, 4, 7, 9, 16, 18, 21, 26, 32, 39, 58.
3. Keeping record of number seen—1, 2, 3, 7, 16, 17, 18, 20a, 22, 23, 25, 26, 39, 58, 66.
4. Solving the problem—How can we make our pets comfortable and happy?
    a. Bringing pets to school—23, 24.
    b. Exhibit of pets—7, 12, 15c, 21, 22, 23, 24, 37, 57.
    c. Caring for pets—1, 2, 3, 4, 7, 9, 10, 16, 17, 20c, 21, 22, 23, 28, 29, 30, 36.
    d. Watching pets—7, 12, 15c, 16, 17, 18, 21, 22, 31.
5. Solving the problem—Are our most familiar animal friends wild or domestic animals? What do domestic animals do for us?
    a. Trip to zoo, circus, or museum to see wild animals—6, 7, 9, 12, 14, 15c, 16, 18, 20a, 21, 22, 31, 55b, c, d, 59, 60, 66.
    b. Visit to farm to see domestic animals and such wild animals as live there—1, 2, 4, 6, 7, 12, 14, 15c, k, 16, 18, 20a, c, 21, 22, 31, 55b, c, d, 59, 60, 66.
    c. Making farm on sandtable with special attention to animal life and provision for it—1, 2, 3, 11, 15c, k, 16, 17, 23, 24, 28, 29, 37, 49, 58, 69.
    d. Listing wild and domestic animals—1, 2, 3, 6, 7, 14, 16, 17, 18, 20a, 21, 22, 23, 31, 39, 58, 60.
    e. Discussing work of domestic animals for man—1, 2, 3, 4, 6, 16, 20c, e, 26, 32, 37, 38, 39, 58.
6. Observing young animals and mother's care of them—4, 5, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 20a, c, 21, 31, 42, 59, 66.
7. Caring for cat and kittens, or rabbit and young ones in the schoolroom—1, 2, 3, 4, 7, 9, 10, 16, 17, 20a, c, 21, 22, 23, 28, 29, 31, 37, 42.
8. Imitating the movements of animals—1, 2, 3, 6, 7, 16, 17, 18, 20a, 21, 26, 58, 66.
9. Making a collection of animal picture books for the schoolroom—7, 12, 15b, 16, 17, 23, 31, 37, 58, 62.

REPTILES

Activities and Experiences Fulfilling Quantitative Objectives. 207.

1. Excursion to see turtle in its own home—6, 7, 12, 14, 15c, k, 21, 37, 55b, c, d, 59, 60, 66.
2. Observation of land turtle in the terrarium—7, 15c, 16, 17, 18, 21, 22, 25, 59.
3. Feeding the turtle—1, 2, 3, 4, 7, 9, 10, 16, 17, 20c, 21, 22, 23, 28, 29, 30, 57, 67.
4. Keeping record of number seen in a season—1, 2, 3, 7, 16, 17, 18, 20a, 26, 31, 39, 57, 58.

WILD PLANTS

Activities and Experiences Fulfilling Quantitative Objectives. 208.

1. Solving the problem—What colors are most often seen in fall wildflowers?
    a. Trip to see fall wildflowers—6, 7, 12, 13, 14, 15b, k, 21, 22, 55b, c, d, 60, 66.
    b. Careful picking of several varieties plentiful in the fall—1, 2, 3, 4, 7, 9, 10, 12, 14, 15b, 22, 23, 40, 43, 49, 55b, c, d.
    c. Pressing specimens picked—1, 2, 3, 7, 16, 17, 22, 23, 28, 29, 31.
    d. Making fall wildflower chart—1, 2, 3, 7, 11, 16, 17, 22, 23, 24, 26, 28, 29, 37.
2. Learning to know at least three fall wildflowers by appearance of the plant as a whole—1, 6, 7, 9, 15b, 16, 17, 18, 21, 22, 27, 55b, c, d, 57, 66.
3. Solving the problem—How can we help to save our Christmas greens?
    a. Observation of a Christmas green in need of protection—1, 4, 7, 9, 13, 15b, 16, 17, 18, 21, 22, 40, 55b, c, d.
    b. Trip to market to see quantities of it on sale—16, 55b, 60.
    c. Decoration of schoolroom for Christmas with substitutes—1, 2, 3, 7, 11, 12, 13, 14, 15b, j, 17, 21, 22, 23, 28, 29, 37, 43, 49, 50, 52.
4. Trip to see spring wildflowers—7, 12, 13, 14, 15b, k, 21, 22, 37, 55b, c, d, 60, 66.
5. Learning to know three spring wildflowers by appearance of the plant as a whole—1, 2, 6, 7, 9, 13, 15b, 16, 17, 18, 21, 22, 27, 55c, d, 66.
6. Comparing colors of spring wildflowers to those seen in fall—1, 2, 3, 7, 9, 12, 14, 15b, i, 16, 17, 18, 19, 20a, e, 21, 22, 31, 55c, d, 58, 66.
7. Solving the problem—What are "outdoor good manners" in regard to gathering wildflowers?
    a. Learning the three simple rules for gathering wildflowers—1, 2, 3, 6, 10, 13, 17, 40, 43, 49, 51.
    b. Telling father and mother about ways of saving the wildflowers—1, 2, 3, 10, 13, 26, 32, 37, 40, 47, 49, 51.

CULTIVATED FLOWERS

Activities and Experiences Fulfilling Quantitative Objectives. 209.

1. Visiting a lawn or garden to look at fall flowers with special attention to color—6, 7, 12, 14, 15b, i, 21, 22, 41, 55b, c, d, 60, 66.
2. Gathering garden flowers—1, 2, 3, 4, 7, 9, 10, 12, 15b, 21, 22, 23.
3. Arranging flowers for schoolroom decoration—4, 11, 15b, i, 16, 21, 22, 23, 24, 28, 29, 44.
4. Keeping cut flowers supplied with fresh water—1, 2, 3, 4, 7, 9, 10, 15b, 16, 21, 22, 23, 28, 29.

5. Learning to know at least three fall garden flowers by appearance of plant as a whole—1, 6, 7, 9, 15b, 16, 17, 18, 21, 22, 27, 55b, c, d, 57, 66.

(Repeat unit in the spring.)

6. Solving the problem—How do wind and insects help flowers?
    - a. Watching insects which visit flowers—1, 4, 5, 6, 7, 12, 14, 15b, c, 16, 17, 18, 21, 22, 23, 25, 31, 55b, c, d, 57, 66.
    - b. Looking for "golden dust" carried from flower to flower by insects and wind—1, 4, 7, 12, 14, 15b, c, d, 16, 17, 18, 21, 22, 25, 27, 31, 55b, c, d, 59, 66.
    - c. Listening to simple story of pollination—4, 8, 9, 15b, h, 55e.
    - d. Making charts showing flower visitors—1, 2, 3, 4, 5, 7, 9, 11, 16, 22, 23, 24, 26, 28, 29, 37, 49, 58.

PLANTS IN GENERAL

Activities and Experiences Fulfilling Quantitative Objective. 210.

1. Solving the problem—What helpers carry young plants inside of seeds to new homes?
    - a. Collecting seeds for the fall table—6, 7, 12, 14, 15b, 16, 17, 18, 22, 23, 37, 55b, c, d, 59, 66.
    - b. Watching to see by what helpers seeds are carried away from their old homes—4, 5, 6, 7, 8, 9, 15c, 16, 17, 18, 20a, 21, 22, 25, 59.
    - c. Reporting the helpers—1, 2, 3, 4, 16, 17, 22, 23, 26, 31, 32, 39, 58.
2. Solving the problem—What do plants need to grow?
    - a. Setting up experiments to show what plants need to grow—1, 2, 3, 4, 5, 6, 7, 10, 15b, d, 16, 17, 19, 20a, 21, 22, 23, 24, 25, 27, 28, 29, 35, 37, 44, 57, 59, 70.
    - b. Watching these experiments—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15b, d, 16, 17, 18, 19, 20a, e, 25, 27, 28, 29, 44, 58, 59, 70.
3. Solving the problem—Do plants differ greatly in form?

    Trip to look at vines, shrubs, trees, flowers without woody stems, grasses and water plants—6, 7, 12, 14, 15b, k, 16, 17, 18, 20a, e, 21, 31, 55b, c, d, 59, 60, 66.
4. Solving the problem—What parts of plants do we use as food?
    - a. Making collection of food plants—4, 5, 7, 15b, 16, 17, 20d, 22, 23, 28, 37.
    - b. Grouping them in accordance with the part eaten—1, 2, 3, 7, 15b, 16, 17, 18, 20e, 22, 23, 24, 27, 28.

TREES

Activities and Experiences Fulfilling Quantitative Objective. 211.

1. Solving the problem—What do nut trees do for people and animals?—4, 6.
    a. Going on a nutting party—6, 7, 9, 11, 12, 14, 15b, k, 16, 17, 18, 21, 31, 37, 55b, c, d, 57, 59, 60, 66.
    b. Bringing nuts to school for the fall table—6, 15b, 16, 23, 24.
2. Short trip to see neighborhood trees in the fall—6, 7, 12, 14, 15b, 16, 17, 18, 21, 22, 55b, c, d, 59, 60.
3. Drawing tree forms seen through the window—1, 2, 3, 6, 7, 11, 12, 14, 15b, i, 16, 17, 18, 19, 20a, 21, 22, 23, 24, 26, 28, 29, 31, 34, 39, 63.
4. Solving the problem—What do the parts of a tree do for it?
    Discussing such uses of the parts of a tree as can be observed without experimentation—mechanical uses chiefly—1, 2, 3, 4, 7, 8, 9, 15b, 16, 20a, e, 26, 27, 32, 49, 58, 59.
5. Taking a walk to see autumn coloring of foliage—6, 7, 8, 9, 12, 14, 15b, i, 16, 17, 18, 20a, 21, 22, 25, 31, 55b, c, d, 60, 66.
6. Solving the problem—What is the chief difference between evergreens and other trees?
    a. Outdoor observation of winter condition of neighborhood trees studied in the fall—4, 5, 6, 7, 12, 14, 15b, 16, 17, 18, 21, 22, 25, 55b, c, d, 60, 66.
    b. Observation of the Christmas tree, and other evergreens—4, 6, 7, 12, 14, 15b, 16, 17, 18, 20a, 21, 22, 55b, c, d, 66.
7. Planting an evergreen seed to grow a Christmas tree for the school—1, 2, 3, 4, 6, 7, 9, 16, 21, 22, 23, 24, 28, 29, 35, 37, 38, 40, 43, 44, 55b, c, d, 59, 70.
8. Solving the problem—What is inside of a bud?
    a. Forcing buds in the schoolroom—8, 9. 12, 15b, 16, 17, 18, 20a, 21, 22, 25, 27, 28, 35, 59.
    b. Observation of opening buds on neighborhood trees—1, 6, 7, 9, 12, 14, 15b, 16, 17, 18, 20a, 21, 22, 25, 35, 55c, d, 57, 59, 60, 66.
9. Taking a walk to see tints and shades of green in young leaves—1, 6, 7, 12, 14, 15b, i, k, 16, 17, 18, 21, 22, 31, 55b, c, d, 57, 59, 60, 66.

GARDENING

Activities and Experiences Fulfilling Quantitative Objectives. 212.

1. Reporting on the home garden of the past summer—1, 2, 3, 4, 5, 7, 15b, 16, 20d, 26, 32, 39, 58.
2. Solving the problem—How do we get seeds for gardens?
    a. Gathering seeds for next year's garden—4, 5, 7, 15b, 16, 17, 20d, 22, 23, 28, 38, 41, 44, 50, 55b, c, d, 66, 67, 69, 70.

   b. Drying seeds for next year's garden—4, 5, 7, 15b, d, 16, 17, 20d, 22, 23, 28, 38, 41, 44, 50, 55b, c, d, 67, 69, 70.
   c. Putting seeds up in packets—1, 2, 3, 4, 7, 16, 17, 20d, 22, 23, 38, 41, 50, 55b, c, d, 67, 70.
3. Harvesting vegetables—1, 2, 3, 4, 5, 6, 7, 9, 14, 16, 20d, 21, 22, 23, 28, 38, 50, 55b, c, d, 66, 67, 69, 70.
4. Solving the problem—What lives inside a bulb?
   a. Bringing bulbs from home for planting—15b, 16, 23, 24.
   b. Planting bulbs indoors and out—1, 2, 3, 4, 7, 15b, 16, 20a, d, 22, 23, 24, 38, 41, 44, 55b, c, d, 66, 67, 69, 70.
   c. Caring for plants grown from bulbs—1, 2, 3, 4, 5, 7, 8, 9, 10, 15b, 16, 17, 20a, d, 22, 23, 28, 29, 35, 38, 41, 44, 66, 67, 69.
   d. Keeping a record in form of sketches of development of plant from bulb—1, 2, 3, 7, 8, 9, 11, 15b, 16, 17, 18, 19, 20a, 21, 22, 25, 26, 28, 31, 34, 58, 59, 63.
5. Growing land plants in water for schoolroom decoration—1, 2, 3, 4, 7, 15b, 16, 17, 20a, 21, 22, 23, 28, 29, 38, 44.
6. Solving the problem—What do plants need to grow?
   a. Helping to set up experiments showing what plants need to grow—1, 2, 3, 4, 5, 6, 7, 10, 16, 17, 19, 20a, 21, 22, 23, 24, 25, 27, 28, 29, 35, 37, 38, 41, 44, 57, 59, 70.
   b. Watching these experiments—1, 4, 5, 6, 7, 8, 9, 15b, 16, 17, 18, 19, 20a, e, 21, 22, 23, 25, 27, 28, 29, 38, 41, 44, 58, 59, 70.
7. Ordering penny seed packets for home garden—16, 17, 24, 41, 44, 67.
8. Planting seeds in eggshells and windowboxes—1, 2, 3, 4, 7, 9, 15b, 16, 20a, 21, 22, 23, 24, 35, 38, 41, 44, 67, 69, 70.
9. Planting seeds in outdoor community garden—1, 2, 3, 4, 6, 7, 9, 15b, 16, 20a, d, 21, 22, 23, 24, 35, 37, 38, 41, 44, 49, 55b, c, d, 66, 67, 69.
10. Planting one kind of seed in the home garden—1, 2, 3, 4, 6, 7, 9, 15b, 16, 17, 20a, d, 21, 22, 23, 24, 28, 29, 35, 38, 41, 44, 55b, c, d, 66, 67, 70.
11. Cultivating and watering plants—1, 2, 3, 4, 6, 7, 9, 10, 15b, 16, 17, 20a, d, 21, 22, 23, 24, 28, 29, 38, 41, 44, 66, 67, 69, 70.
12. Keeping a record in sketches of plant development—1, 2, 3, 4, 7, 8, 9, 11, 15b, i, 16, 17, 18, 19, 20a, 25, 26, 28, 31, 34, 58, 59, 63.

SKY AND WEATHER

Activities and Experiences Fulfilling Quantitative Objectives. 214.

1. Noting change of temperature from week to week—1, 4, 7, 15d, 16, 17, 18, 21, 22, 25, 55c, d, 57, 59.
2. Solving the problem—Does the wind do work for man and other creatures?
   a. Feeling the wind blow—1, 4, 6, 8, 9, 15d, 20a, 21, 55c, d.
   b. Discussing the varying force of wind—1, 2, 3, 4, 7, 16, 17, 20a, e, 25, 26, 27, 32, 58.

   - c. Observing work done by wind—1, 4, 6, 7, 8, 9, 15d, 16, 17, 18, 20a, e, 21, 22, 59, 60.
   - d. Discussing the work of the wind—1, 2, 3, 4, 7, 8, 9, 15d, 16, 17, 20e, 26, 27, 32, 38, 58, 70.
3. Looking at clouds to note color, shape, and size—1, 7, 12, 14, 15d, 16, 17, 18, 20a, 21, 22, 31, 55c, d, 57, 59, 66.
4. Observation of sky colors at different times of day, and on days of unlike weather conditions—1, 7, 12, 14, 15d. 16, 17, 18, 21, 22, 25, 31, 55c, d, 57, 59, 66.

STAR STUDY

Activities and Experiences Fulfilling Quantitative Objectives. 215.

1. Observation of the night sky with special attention to the moon, Pole Star, and Big Dipper. (Ask help of father or mother)—6, 7, 8, 9, 12, 14, 15f, 16, 17, 18, 20a, 21, 22, 31, 55b, c, d, 59, 66.
2. Learning to find Pole Star by means of pointers in the Dipper—1, 6, 7, 15f, 16, 17, 18, 20a, 21, 22, 55b, c, d, 59, 66.
3. Making a chart of the Big Dipper—1, 2, 3, 15f, 16, 17, 21, 22, 23, 24, 26, 28, 29, 58.
4. Listening to stories about the moon and stars—7, 8, 9, 15h, L, 16, 17, 19, 20a, 21, 31, 58.
5. Making a chart to show changes in shape of moon throughout the month—1, 2, 3, 12, 15f, 16, 17, 18, 22, 23, 24, 25, 26, 28, 29, 58.
6. Discussing what the sun does for us—1, 2, 3, 4, 6, 9, 15f, 16, 17, 18, 19, 20a, e, 32, 37, 39, 58.
7. Telling time with shadow stick and sun dial—1, 4, 5, 6, 15d, 16, 17, 18, 20a, 28, 29, 31, 35, 57, 70.

TOYS, INVENTIONS, ETC.

Activities and Experiences Fulfilling Quantitative Objectives. 216.

1. Bouncing rubber ball—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 25, 28, 31, 35.
2. Testing elasticity of rubber band—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 25, 28, 31, 35.
3. Making bow and arrows—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 24, 25, 28, 31, 35.
4. Shooting with bow and arrows—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 24, 25, 28, 31, 35.
5. Playing with bat and ball, golf club and ball, tennis racket and ball, marbles and hoops—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 24, 25, 28, 31, 35.
6. Experimenting with leather sucker and siphon—7, 15d, j, 16, 17, 18, 20a, 21, 22, 23, 24, 25, 27, 28, 29, 31, 35.

FOURTH GRADE

BIRDS

Activities and Experiences Fulfilling Quantitative Objectives. 402.

1. Listing birds seen from day to day—1, 2, 3, 6, 7, 12, 15c, 16, 17, 18, 20a, 22, 23, 29, 31, 55d, 66.
2. Listening to bird songs and calls—6, 7, 8, 15c, g, 16, 17, 18, 20a, 22, 23, 31, 55c, 61, 66.
3. Imitating bird songs and calls—6, 7, 15c, g, 16, 18, 21, 22, 26, 31, 55b, c, d, 58, 61, 66.
4. Solving the problem—What can fourth grade children do for the protection of game birds?
    a. Observation and discussion of two game birds in need of protection—1, 7, 13, 15c, 16, 17, 19, 20a, e, 26, 32, 36, 40, 52.
    b. Planning a bird sanctuary—Brief discussion of the nearest bird sanctuary—Visiting it if distance permits—1, 2, 3, 4, 7, 10, 13, 15b, c, 16, 17, 18, 19, 22, 23, 40, 52.
    c. Making a bird sanctuary—1, 2, 3, 4, 6, 7, 9, 10, 11, 13, 15b, c, 16, 21, 22, 24, 29, 37, 40, 52.
5. Solving the problem—How and why shall we help winter birds?
    a. Observation and discussion of winter birds—1, 4, 6, 7, 9, 12, 15c, 16, 18, 19, 21, 26, 32, 47.
    b. Investigating the food supply of winter birds—1, 4, 6, 7, 9, 15b, c, 16, 17, 18, 19, 20a, e.
    c. Making and placing feeding shelves, food hoppers, feeding houses, cocoanut larders, and bird baths—6, 7, 10, 16, 22, 24, 29, 37, 40, 44, 47.
6. Making a bird corner to decorate the schoolroom—7, 11, 15c, i, 24, 29, 37.
7. Watching spring migration—1, 5, 7, 8, 15c, 16, 17, 18, 19, 20a, 21, 23.
8. Discussion of birds' return to their old nesting sites—1, 4, 6, 7, 8, 9, 15c, 16, 17, 18, 20a, 25, 26, 32.
9. Special study of two spring arrivals—1, 4, 5, 6, 7, 8, 9, 14, 15c, 16, 17, 18, 20a, e, 21, 31, 42, 55b, c, d, 59, 66.

FISH

Activities and Experiences Fulfilling Quantitative Objectives. 403.

1. Solving the problem—Why are streams and oceans full of fish?
    a. Making a pond in the schoolroom—1, 7, 10, 11, 15b, c, d, 16, 17, 21, 22, 23, 24, 26, 28, 29, 31, 35, 37, 58.
    b. Stocking the pond with breeding aquarium fish, as the stickleback—7, 15c, 16, 22, 23, 29, 37, 57.
    c. Observation of the fish in the pond—1, 4, 7, 9, 12, 15c, 16, 17, 18, 20a, 25, 31.

   d. Watching the development of fish eggs—1, 8, 9, 14, 15c, 16, 17, 18, 20a, 20e, 25, 28, 36, 55e.
   e. Keeping a record in sketches of the development of fish eggs—1, 2, 3, 7, 8, 9, 14, 15c, i, 16, 17, 18, 20a, 25, 26, 31, 34, 36, 55e, 63.
   f. Studying slides, films, or pictures showing stages of development from egg to fish—7, 9, 15c, i, 16, 20a, c, 25, 36, 55e, 59.
   g. Listening to stories of the peculiarities of family life among fish—7, 15c, L, 16, 17, 19, 20a, 31, 34, 42, 49, 58.

2. Watching fish of nearby waters to learn similar facts concerning them—1, 6, 7, 9, 12, 15c, 16, 17, 18, 20a, c, 21, 25, 31, 55b, c, d, e, 58, 59, 66.

INSECTS

Activities and Experiences Fulfilling Quantitative Objectives. 404.

1. Collecting leaves showing the work of leaf miners—15c, 16, 17, 18, 20b, 44, 48, 55b, 57, 59, 66.
2. Listening to the story of the leaf miner—15c, L, 16, 19, 31, 34, 58.
3. Solving the problem—Do ants help one another?
   a. Outdoor observation of ants—4, 6, 8, 15c, 16, 18, 20a, c, 25, 31, 55b, c, d, 57, 59, 66.
   b. Making an ant's nest—1, 2, 3, 10, 15c, 17, 20c, 22, 23, 24, 26, 28, 30, 31, 35, 37, 39, 49, 57, 59.
   c. Watching ants in the nest—4, 5, 7, 10, 15c, 16, 17, 18, 20c, 31, 35, 42, 58.
   d. Studying pictures, slides, and films showing the life of ants—7, 15i, 16, 18, 20c, 31, 42, 58, 62.
   e. Comparing work of various types of ants in the colony—4, 8, 10, 16, 17, 18, 26, 27, 32, 34, 37, 42, 49, 58.
4. Watching aphids on plants outdoors—6, 7, 15c, 16, 17, 18, 20a, 31, 55c, d, 57, 59, 66.
5. Listening to story of ants and aphids—4, 7, 15c, L, 16, 19, 20a, 58.
6. Solving the problem—Do bees help one another?
   a. Observation of bees—6, 7, 15c, 16, 17, 18, 20a, c, 30, 31, 55b, c, d, 57, 59, 66.
   b. Observation of an empty hive, honey combs, etc.—7, 8, 12, 14, 15c, 16, 18, 23, 28, 31, 57, 59, 65, 66.
   c. Looking at slides, films and other pictures showing the life of bees—7, 10, 15i, 16, 17, 18, 20c, 21, 25, 31, 33, 42, 57, 58, 59.
   d. Distinguishing between the queen bee, drone and worker—1, 15c, 16, 17, 18, 20b, 26, 27, 32, 33, 48, 55e, 59.
7. Solving the problem—Do social wasps help one another?
   a. Observation of wasps—5, 7, 15c, 17, 18, 20a, c, 21, 25, 30, 55c, d, 57, 59, 66.

   b. Observation of a deserted wasps' nest—7, 15c, 16, 17, 18, 20a, c, 59, 66.
   c. Looking at slides, films and other pictures of wasps—7, 15c, i, 17, 18, 20c, 59, 62.
   d. Discussing life in a wasps' nest—1, 2, 3, 4, 5, 6, 7, 8, 9, 16, 19, 20c, 26, 32, 34, 37, 42, 49, 58.

8. Observation of solitary wasps—1, 6, 7, 8, 9, 12, 14, 15c, 16, 17, 18, 20a, c, 21, 25, 30, 31, 55c, d, 59, 66.
9. Making a sandtable pond—1, 2, 3, 4, 6, 7, 10, 11, 12, 14, 15b, c, d, 16, 17, 18, 20a, 22, 23, 24, 26, 28, 29, 34, 35, 37, 59.
10. Going on hike for larvae of water insects for sandtable pond—1, 6, 7, 15c, k, 16, 17, 18, 20a, c, 22, 23, 24, 37, 55b, c, d, 57, 59, 66.
11. Watching water insects—Special observation of two—1, 6, 7, 8, 9, 15c, 16, 17, 18, 20a, c, 31, 55c, d, 59, 66.
12. Outdoor trip to discover and observe the ant lion—1, 6, 7, 15c, 16, 17, 18, 20a, 21, 31, 55c, d, 57, 59, 66.
13. Keeping record in sketches of activities and developments of insects in pond—1, 2, 3, 7, 11, 12, 14, 15c, i, 16, 17, 18, 20a, c, 25, 26, 28, 29, 31, 34, 63.
14. Watching ant lions to discover as many as possible of the facts suggested in the outline—1, 2, 3, 6, 7, 15c, 16, 17, 18, 20a, 21, 25, 31, 55c, d, 59, 66.
15. Writing a class book on insects to be mimeographed and used as a reader—(material to be selected and edited by the teacher)—1, 2, 3, 4, 7, 10, 11, 16, 17, 19, 20a, 21, 22, 23, 24, 26, 28, 29, 31, 32, 34, 37, 49, 58, 67.

OTHER INVERTEBRATES

Activities and Experiences Fulfilling Quantitative Objectives, 405

1. Solving the problem—Of what use is the shell of a crustacean or mollusk to the creature? (material supplied by boys of the sixth grade).
   a. Observation of a crayfish, fresh water clam, and a fresh water mussel kept in the schoolroom for a few days in a jar or tank—7, 15c, 16, 17, 18, 20a, c, 21, 25, 31, 57, 59.
   b. Looking at slides or pictures of crayfish, fresh water mussels, and fresh water clams—7, 15c, i, 16, 17, 18, 20a, c, 21, 25, 31, 59, 62.
   c. Discussing the use of its shell to each of these creatures. (Special examination of shell of fresh water clam)—1, 2, 3, 5, 12, 14, 16, 17, 18, 19, 20a, c, 26, 27, 32, 37, 39, 58.
2. Watching development of eggs of crustacean or mollusk—1, 7, 8, 9, 16, 17, 18, 20a, c, 21, 25, 31, 36, 55e, 57, 59.

MAMMALS

Activities and Experiences Fulfilling Quantitative Objectives, 406.

1. Solving the problem—How are the sheep and pig fitted to the lives they live?
    a. Visiting a farm to see sheep and pigs—1, 4, 5, 7, 10, 15c, 18, 21, 30, 55c, d, 60, 66, 69.
    b. Observation of slides, films, and pictures of sheep and pigs—4, 7, 15c, i, 17, 18, 20a.
    c. Making a sandtable farm to show proper provision for sheep and pigs—1, 2, 3, 7, 10, 17, 18, 21, 22, 23, 24, 26, 28, 29, 37, 39, 49, 58, 69, 70.
2. Trip to zoo or museum to see wild relatives of sheep and pig—6, 7, 15c, 16, 18, 20a, 21, 31, 55b, c, d, 59, 60, 66.
3. Looking at pictures of wild relatives—7, 15c, i, 16, 18, 21, 31, 60.
4. Solving the problem—Why do some animals sleep through the winter?
    a. Observation of a neighborhood animal that hibernates—6, 7, 8, 9, 15c, 16, 17, 18, 20c, 31, 55b, c, d, 59, 66.
    b. Looking at pictures of animals that hibernate—7, 15c, i, 16, 17, 18, 20a, c, 31, 59, 62.
    c. Comparing life of wild animals in winter and at other seasons, especially as to food supply—4, 5, 15c, 19, 20a, 26, 27, 28, 59.
    d. Discussing advantages of hibernation to animals—1, 2, 3, 4, 5, 8, 9, 16, 19, 26, 27, 28, 32, 39, 49, 58.
5. Trip to zoo, circus or museum to see two of the following list: elephant, camel, seal, deer, giraffe—7, 15c, 16, 18, 20a, 21, 31, 55b, c, d, 60.
6. Watching animals of zoo or circus and talking to keepers about them—7, 15c, 16, 17, 18, 31, 32, 55c, d, 66.
7. Solving the problem—How are the muskrat and beaver fitted to their ways of living?
    a. Studying the beaver and muskrat from life, mounted specimens, or pictures—1, 6, 7, 8, 9, 15c, 16, 17, 18, 20a, c, 21, 31, 55b, c, d, 57, 59, 66.
    b. Making beaver dam and lodge on sandtable—1, 2, 3, 11, 15c, 16, 17, 18, 20a, 22, 23, 24, 26, 28, 29, 37, 39, 58.
    c. Making diagrams to show arrangement of homes of muskrat and beaver—1, 2, 3, 11, 15c, 16, 17, 18, 20a, 23, 26, 28, 29.
    d. Discussing uses made of specially developed parts as teeth of beaver, forepaws of muskrat, etc.—1, 2, 3, 5, 15c, 18, 19, 20a, 26, 27, 32, 39, 58.
8. Making toy animals and coloring them—7, 11, 16, 17, 18, 23, 24, 26, 29, 34, 63.
9. Looking at copies of famous pictures of animals—7, 8, 12, 14, 15c, i, 21, 31, 58, 62.
10. Making collection of animal books and pictures for the school—7, 8, 11, 12, 14, 15c, h, i, 17, 18, 23, 29, 34, 37, 62.

REPTILES

Activities and Experiences Fulfilling Quantitative Objectives, 407.

1. Solving the problem—Does the turtle's shell help him?
    a. Making a pond for the water turtle—1, 2, 3, 10, 11, 15c, 16, 17, 20c, 22, 23, 24, 26, 28, 35, 37, 49, 57, 58, 59.
    b. Watching the water turtle in the pond or aquarium—1, 4, 5, 7, 9, 15c, 16, 17, 18, 20a, c, 21, 25, 31, 59.
    c. Feeding the water turtle—1, 2, 3, 4, 6, 9, 10, 16, 17, 20c, 22, 23, 30, 31, 37, 39.
    d. Looking at pictures of water turtles in their native haunts—15c, i, 16, 17, 18, 21, 31, 62.
    e. Discussing the life of a water turtle outdoors—1, 2, 3, 15c, 16, 17, 19, 26, 27, 32, 37.

SIXTH GRADE

WILD PLANTS

Activities and Experiences Fulfilling Quantitative Objectives. 608.

1. Solving the problem—How and why we should save our Christmas greens?
    a. Observation of Christmas greens in need of protection (general review)—7, 12, 15b, 16, 18, 21, 57.
    b. Trip to market and florists to see quantities for sale—1, 4, 12, 13, 15b, 16, 20e, 21, 25, 43, 45, 49, 60.
    c. Hike to woods to see results of Christmas vandalism—1, 4, 5, 6, 13, 14, 15b, 16, 20e, 21, 25, 28, 43, 45, 52, 55b, c, d, 60.
    d. Looking at slides and films showing Christmas greens in need of protection—1, 4, 5, 14, 15h, 16, 20e, 21, 43, 45, 52.
    e. Exhibit of possible substitutes—1, 2, 3, 11, 13, 23, 24, 43, 45, 47, 52.
    f. Presentation of play on "Saving Our Christmas Greens"—1, 2, 3, 4, 13, 15b, h, 16, 23, 24, 26, 29, 31, 34, 43, 47, 52.
2. Solving the problem—How and why we should protect wild flowers?
    a. Collecting cartoons and pictures showing why wildflowers need protection—1, 13, 15b, i, 20e, 21, 43, 57, 62.
    b. Trip to study wildflowers and their need of protection—1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 15b, k, 16, 18, 20e, 21, 27, 31, 40, 43, 45, 55b, c, d, 57, 60, 66.
    c. Discussing value of wildflowers as forest ground cover—4, 5, 15b, 20a, b, e, 26, 32, 40, 43, 45, 47, 52.
    d. Investigating causes of wildflower destruction—1, 4, 5, 13, 15b, 17, 19, 20a, e, 21, 27, 29, 40, 45, 49, 52.
    e. Sending for circulars telling which wildflowers may be picked

(1) freely, (2) in moderation, (3) not at all—4, 13, 15b, 20a, 23, 24, 33, 40, 43, 45, 47, 51.
    - f. Making posters to tell how to pick wildflowers—4, 5, 13, 15b, 16, 26, 31, 34, 40, 43, 47, 49, 51, 52, 63.
    - g. Placing posters in school corridors—1, 2, 3, 13, 16, 23, 24, 37, 40, 43, 45, 47, 49, 51, 52.
    - h. Collecting specimens of wildflowers which may be picked freely or in moderation—1, 2, 3, 7, 8, 9, 12, 13, 14, 15b, 16, 22, 23, 24, 29, 31, 45, 49, 51, 55b, c, d.
    - i. Making blueprints of these specimens—7, 15b, 16, 17, 22, 23, 24, 28, 29, 31, 40, 51, 57.
    - j. Conducting campaign for protection of dogwood—
        1. Making posters—4, 5, 13, 15b, 16, 26, 31, 34, 40, 43, 47, 49, 51, 52, 63.
        2. Placing posters in schools or in store windows—1, 2, 3, 13, 16, 23, 24, 37, 40, 43, 45, 47, 49, 51, 52.
        3. Making talks to younger pupils—13, 15b, 16, 23, 24, 26, 32, 40, 45, 47, 49, 51.
    - k. Looking at slides and movies on wildflower protection—13, 15b, i, 16, 17, 20a, b, e, 21, 25, 40, 43, 45, 47, 49, 51, 52, 58, 62.
    - l. Coloring outline drawings of wildflowers—7, 11, 12, 15b, 22, 23, 31, 34, 63.

3. Looking for moss when on wildflower trip—7, 8, 12, 15b, 16, 18, 21, 31, 55b, c, d, 57, 60, 66.
4. Counting the number of different kinds of moss seen—7, 15b, 16, 17, 18, 20a, 31, 35, 55b, c, d, 59, 66.
5. Listing the places where moss is found growing—5, 12, 15b, k, 16, 18, 20a, 25, 29, 59.
6. Collecting a library of wildflower books for use in the schoolroom—15b, h, l, 16, 29, 33, 37,

PLANTS IN GENERAL

Activities and Experiences Fulfilling Quantitative Objectives. 610.

1. Solving the problem—What are some of the special adaptations which help plants to live?
    - a. Collecting, pressing, and mounting sprays showing alternate and opposite arrangement of leaves—1, 2, 3, 5, 6, 7, 8, 10, 14, 15b, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 57, 58, 59.
    - b. Collecting, pressing, and mounting sprays showing simple and compound leaves—1, 2, 3, 5, 6, 7, 8, 10, 14, 15b, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 57, 58, 59.
    - c. Collecting seeds showing various devices for traveling—1, 5, 6, 7, 8, 9, 15b, 16, 17, 18, 20a, e, 22, 23, 24, 31, 57, 58, 55b, c, d, 66.

d. Making charts of seed travelers—grouped according to their way of traveling—5, 6, 7, 8, 10, 14, 15b, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 57, 58, 59.
e. Observation of plants having special devices for capturing insects, storage roots, tubers or root stocks, and special devices for breathing—1, 5, 6, 7, 8, 9, 15b, 16, 17, 18, 20a, e, 31, 57, 58, 55b, c, d, 66.
f. Collecting plants that live on other plants—5, 6, 7, 8, 10, 15b, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 57, 58, 59.
g. Listing plant adaptations studied—5, 6, 7, 8, 9, 10, 14, 15b, 16, 17, 18, 20a, 26, 29, 37.
h. Making chart to illustrate plant adaptations—5, 6, 7, 8, 10, 15b, 16, 17, 18, 20a, e, 23, 24, 28, 29, 31, 57, 58, 59.

TREES

Activities and Experiences Fulfilling Quantitative Objectives. 611.

1. Solving the problem—What do forests do for us?
   a. Visiting the source of a stream to see that it rises in the woods—1, 7, 14, 15d, k, 16, 18, 20a, e, 21, 31, 35, 45, 55b, c, d, 57, 58, 60, 66.
   b. Trip to see erosion on bare slopes—1, 4, 5, 7, 8, 9, 15b, k, 16, 17, 18, 20a, e, 21, 45, 55b, c, d, 57, 60.
   c. Collecting government bulletins on lumbering, uses of wood, paper industry, turpentine industry, food products and clothing from trees, etc.—4, 5, 7, 15b, 16, 23, 24, 25, 29, 33, 38, 43, 45, 47, 48, 49, 52, 57.
   d. Making individual reports on these topics—15b, 16, 19, 26, 32, 38, 43, 45, 47, 48, 49, 52, 57.
   e. Making a school museum of different kinds of wood—4, 7, 15b, 16, 22, 23, 24, 28, 29, 31, 38, 44, 45, 47, 52.
   f. Making miniature articles of the wood used in their manufacture—4, 7, 15b, i, 16, 19, 23, 24, 28, 29, 31, 47.
2. Solving the problem—How do trees grow?
   a. Making cross-sections of dead branches to see bark, cambium, heartwood, and rings of growth—1, 7, 8, 9, 14, 15b, 16, 18, 20a, e, 22, 23, 24, 29, 31, 35, 57, 58, 59.
   b. Counting rings of growth—1, 7, 8, 9, 14, 15b, 16, 17, 18, 20a, e, 29, 31, 35, 58, 59.
   c. Looking at twigs to see this year's growth—1, 7, 8, 9, 14, 15b, 16, 17, 18, 20a, e, 31, 59.
   d. Answering the question—Is a fence nailed to a tree carried up into the air as the tree grows?—1, 7, 15b, 16, 17, 18, 19, 20a, e, 25, 28.
   e. Measuring young and old trees of the same kind to see whether they are the same thickness—7, 15b, 16, 17, 18, 20a, e, 29.

3. Trip to enjoy the beauty of the forest and to see the characteristics of forest trees, led where practicable by pupils having special knowledge of the subject—1, 4, 6, 7, 8, 9, 12, 13, 14, 15b, k, 16, 18, 19, 20a, c, 21, 23, 24, 31, 40, 43, 45, 47, 55b, c, d, 58, 60, 66, 69.
4. Solving the problem—How may our forests be protected?
    a. Visiting museum forestry exhibits—1, 2, 3, 4, 5, 7, 15b, 16, 17, 18, 20a, e, 25, 31, 40, 43, 45, 47, 52, 58, 60, 69.
    b. Visiting woods where good and bad lumbering have been practiced—1, 2, 3, 4, 5, 6, 7, 15b, k, 16, 17, 18, 20a, e, 25, 40, 43, 45, 47, 52, 60, 66, 69.
    c. Making sandtable forests to show good and bad lumbering—1, 2, 3, 4, 5, 6, 7, 13, 15b, k, 16, 17, 18, 20a, e, 26, 28, 29, 37, 40, 43, 45, 47, 52, 69.
    d. Studying slides, films and pictures of National Forest work—7, 13, 15b, k, 16, 18, 19, 20a, e, 21, 31, 40. 43, 45, 47, 52, 58, 60, 62, 69.
    e. Listening to talks by government foresters—7, 15b, k, 16, 19, 20a, e, 21, 40, 43, 45, 47, 52, 58, 69.
    f. Making and extinguishing camp fires according to rules—4, 13, 22, 23, 24, 29, 40, 43, 45, 47, 51, 52.
    g. Making a sandtable forest to show (1) causes of forest fires, (2) destruction by fire, and (3) fire fighting—4, 13, 15b, d, k, 16, 17, 20a, e, 22, 23, 24, 26, 28, 29, 37, 40, 43, 45, 47, 49, 51, 52, 69.
    h. Conducting American Forest Week Assembly—1, 2, 3, 4, 5, 7, 13, 15b, k, 16, 23, 24, 26, 29, 32, 40, 43, 45, 47, 51, 52.
    i. Making talks on forest protection to younger pupils—1, 2, 3, 4, 5, 7, 13, 15b, k, 16, 23, 24, 26, 29, 32, 40, 43, 45, 47, 51, 52.
5. Making a report at Christmas Assembly on the use of Christmas trees, and the right way to get one—1, 2, 3, 4, 15b, k, 16, 19, 20a, e, 23, 24, 26, 29, 32, 39.
6. Planting tree seeds—4, 5, 6, 7, 8, 9, 11, 15b, 16, 22, 23, 24, 29, 31, 35, 43, 44, 49, 52, 55b, c, d, 59, 66, 69, 70.
7. Caring for seedlings—4, 5, 6, 7, 8, 9, 10, 11, 15b, 16, 17, 22, 23, 24, 29, 31, 35, 43, 44, 49, 52, 55b, c, d, 59, 66, 69, 70.
8. Propagating trees by grafting—4, 5, 6, 7, 8, 9, 11, 15b, 16, 22, 23, 24, 29, 31, 35, 43, 44, 49, 52, 55b, c, d, 59, 66, 69, 70.
9. Propagating trees by budding—4, 5, 6, 7, 8, 9, 11, 15b, 16, 22, 23, 24, 29, 31, 35, 43, 44, 49, 52, 55b, c, d, 59, 66, 69, 70.
10. Transplanting a tree—4, 5, 6, 7, 8, 9, 11, 15b, 16, 22, 23, 24, 29, 31, 35, 43, 44, 49, 52, 55b, c, d, 59, 66, 69, 70.
11. Organizing a Forestry Club—7, 15b, 16, 20a, 21, 23, 24, 29, 31, 37, 64.
12. Writing a class book on Forestry to be mimeographed and used as a reader—7, 15b, 19, 23, 24, 26, 29, 32, 37.

13. Presenting a play or pageant on Forest Protection—1, 2, 3, 7, 15b, 19, 23, 24, 26, 29, 31, 32, 37, 40, 43, 47.

GARDENING

Activities and Experiences Fulfilling Quantitative Objectives. 612.

1. Reporting on gardens of the summer—1, 2, 3, 15b, 16, 20d, 23, 24, 29, 39.
2. Harvesting the school garden crops—7, 15b, 16, 20d, 22, 23, 24, 28, 29, 31, 37, 44, 50, 53, 55b, c, d, 66, 67, 68, 69, 70.
3. Arranging and holding an exhibit of school garden products—7, 15b, 16, 22, 23, 24, 28, 29, 31, 37, 41, 44, 67.
4. Conducting a school garden assembly—7, 15b, 16, 23, 24, 29, 31, 37, 41, 44, 50, 53, 67.
5. Conducting a school garden market—15b, j, 23, 24, 29, 37, 39, 53, 67, 68, 69.
6. Cleaning up the garden—7, 15b, 16, 20d, 22, 23, 24, 30, 37, 39, 44, 55b, c, d, 66, 67, 69, 70.
7. Arranging for and supervising fall plowing—5, 7, 15b, 16, 20d, 22, 23, 24, 37, 39, 44, 55b, c, d, 67, 69, 70.
8. Sowing green cover crop—5, 7, 15b, 16, 20d, 22, 23, 24, 28, 29, 37, 41, 44, 55b, c, d, 66, 67, 69, 70.
9. Solving the problem—How can we help to make our town a model for the nation?
    a. Improving lawns.
        1. Making plans of home front and back yards—11, 15b, 16, 22, 23, 24, 28, 29, 41, 44, 57, 58, 67, 69, 70.
        2. Conducting home garden crusade throughout the school—1, 2, 3, 11, 15b, 16, 20d, 23, 24, 26, 29, 37, 38, 41, 44, 53, 55b, c, d, 59, 65, 66, 67, 68, 69, 70.
        3. Organizing a Home Garden Club—1, 2, 3, 11, 15b, 16, 20d, 23, 24, 31, 35, 37, 38, 41, 44, 45, 49, 58, 59, 64.
        4. Planting home gardens—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15b, 16, 20d, 21, 22, 23, 24, 31, 35, 37, 38, 41, 44, 45, 49, 53, 55b, c, d, 59, 66, 67, 68, 69, 70.
        5. Conducting grass crusade throughout the school—1, 2, 3, 11, 13, 15b, 16, 20d, 23, 24, 26, 29, 37, 38, 41, 44, 59.
        6. Caring for grass at home and at school—1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 15b, 16, 18, 20d, 22, 23, 24, 29, 31, 38, 41, 44, 55b, c, d, 66, 67, 69, 70.
        7. Caring for shrubbery at home or at school, trimming, pruning, tying up vines, staking shrubs and flowers, weeding, spading fertilizer in around roots of plants—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15b, 16, 17, 18, 20a, d, 21, 22, 23, 24, 25, 28, 29, 30, 31, 38, 41, 44, 55b, c, d, 57, 66, 67, 69, 70.

8. Bringing cuttings or small plants from home for improvement of school lawns—4, 7, 11, 15b, 20d, 23, 24, 29, 37, 41, 49.
9. Having a "Planting Day" for school ground improvement—1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 15b, 16, 17, 20a, d, 21, 22, 23, 24, 28, 29, 31, 37, 38, 41, 44, 66, 67, 69, 70.

b. Conducting clean-up campaign affecting school yard, home yards and picnic grounds—1, 2, 3, 4, 5, 7, 13, 15b, c, d, 20d, 22, 23, 24, 28, 29, 30, 40, 41, 45, 49, 51, 52, 66, 70.

c. Organizing a Junior Park Commission to cooperate with city authorities in care of school neighborhood, public parks, etc./—1, 2, 3, 4, 5, 7, 13, 15b, c, d, 20d, 22, 23, 24, 28, 29, 30, 40, 41, 45, 49, 51, 52, 66, 70.

d. Setting the example to the rest of the school in cleaning up—1, 2, 3, 4, 5, 7, 13, 15, b, c, d, 20d, 22, 23, 24, 28, 29, 30, 40, 41, 45, 49, 51, 52, 66, 67, 70.

e. Arranging to have home gardens visited by committee of Parent-Teachers' Association—23, 24, 29, 37.

f. Making talks to younger pupils on lawn improvement, clean-up, and the city beautiful—4, 5, 7, 11, 13, 15b, c, d, 16, 20d, 22, 23, 24, 26, 29, 32, 40, 41, 44, 45, 49, 51, 58, 67, 70.

SKY AND WEATHER

Activities and Experiences Fulfilling Quantitative Objectives. 614.

1. Solving the problem—What causes rain?
   Performing experiments in evaporation and condensation—1, 4, 7, 9, 15d, 16, 17, 18, 20a, e, 22, 23, 24, 25, 27, 28, 29, 35, 57, 58, 59.
2. Solving the problem—Why does the wind blow?
   Performing experiments to show movement of air currents—1, 4, 7, 9, 15d, 16, 17, 18, 20a, e, 22, 23, 24, 25, 27, 28, 29, 35, 57, 58, 59.
3. Learning to read a weather map—1, 4, 5, 7, 15d, 16, 17, 20a, e, 22, 23, 29, 57.
4. Collecting newspaper accounts of crops, ships, etc, saved by Weather Bureau forecasts—4, 5, 15d, 16, 20a, e, 23, 25, 27, 44, 47, 58.

STAR STUDY

Activities and Experiences Fulfilling Quantitative Objectives. 615.

1. Organizing a Star Study Club, where problem of meeting after dark can be satisfactorily solved—7, 15f, 23, 24, 26, 31, 37, 64.
2. Observation of the night sky—1, 4, 6, 7, 8, 9, 12, 14, 15f, 16, 18, 19, 20a, 21, 22, 23, 55b, c, d, 57, 59, 66.
3. Studying star charts—1, 4, 7, 15f, 16, 18, 20a, 22, 23, 57.

4. Drawing charts from memory of the constellations studied—1, 2, 3, 7, 15f, i, 16, 22, 23, 26.
5. Making scrapbooks of current articles on the stars, moon, planets, eclipses of the sun and moon,—comets and meteors—7, 15f, h, 16, 23, 24, 25, 29, 31, 33, 58.
6. Keeping a record in sketches of the phases of the moon—1, 2, 3, 7, 8, 12, 14, 15f, i, 16, 19, 20a, e, 22, 23, 24, 31, 55c, d, 59, 66.
7. Consulting books and magazines for information—7, 15f, h, 16, 23, 25, 29, 31, 33, 58.
8. Discussing facts gathered by observation and study—8, 9, 15f, h, 16, 20a, e, 26, 32, 58.
9. Making a model of the solar system—1, 2, 3, 4, 7, 8, 9, 15f, 16, 23, 24, 26, 58.
10. Drawing diagrams to show the cause of eclipses—1, 2, 3, 4, 7, 8, 9, 15f, 16, 23, 24, 26, 58.
11. Writing a class book on stars to be mimeographed and used as a reader—1, 2, 3, 4, 7, 8, 9, 15f, h, 16, 19, 23, 24, 26, 28, 29, 32, 37, 58.

TOYS, INVENTIONS, ETC.

Activities and Experiences Fulfilling Quantitative Objectives. 616.

1. Making an electric bell—1, 2, 3, 4, 7, 8, 9, 15d, 16, 17, 18, 19, 20a, e, 22, 23, 24, 25, 28, 29, 31, 35, 37, 38, 39, 41, 44, 54, 57, 59, 67, 69, 70.
2. Making a telegraph outfit—1, 2, 3, 4, 7, 8, 9, 15d, 16, 17, 18, 19, 20a, e, 22, 23, 24, 25, 28, 29, 31, 35, 37, 38, 39, 41, 44, 54, 57, 59, 67, 69, 70.
3. Examining an electric telephone and discussing it—1, 4, 7, 8, 9, 15d, 16, 17, 18, 19, 20a, e, 23, 24, 25, 26, 31, 32, 35, 38, 41, 44, 54, 57, 59, 67, 69, 70.
4. Making radio sets—1, 2, 3, 4, 7, 8, 9, 15d, 16, 17, 18, 19, 20a, e, 22, 23, 24, 25, 28, 29, 31, 35, 37, 38, 39, 41, 44, 54, 57, 59, 67, 69, 70.
5. Solving the problem—How have people, ancient and modern, started fires?
    a. Making fire with bow-drill—1, 4, 5, 7, 8, 9, 15d, 16, 20a, e, 22, 23, 24, 28, 29, 38, 57, 59, 70.
    b. Making fire with flint and steel—1, 4, 5, 7, 8, 9, 15d, 16, 20a, e, 22, 23, 24, 28, 29, 38, 57, 59, 70.
    c. Discovering why matches when struck burst into flame—1, 4, 5, 7, 8, 9, 15d, 16, 20a, e, 28, 38, 41, 54, 57, 59.
6. Solving the problem—What is necessary for fire to burn?
    a. Helping to set up experiments to discover under what conditions fires burn best—1, 4, 5, 7, 8, 9, 15d, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 37, 38, 41, 44, 45, 54, 57, 59, 70.
    b. Watching experiments—1, 4, 5, 7, 8, 9, 15d, 16, 17, 18, 20a, e, 28, 29, 31, 38, 41, 44, 45, 54, 57, 59, 70.

7. Helping to make camp fires for different purposes—1, 2, 3, 4, 5, 6, 7, 8, 9, 15d, 16, 17, 18, 20a, e, 22, 23, 24, 28, 29, 31, 45, 55b, c, d.
8. Extinguishing camp fires—1, 4, 5, 7, 8, 9, 15d, 16, 17, 18, 20e, 22, 23, 24, 28, 29, 45, 47, 49, 51, 52.

Guiding Principles for the Selection of Material for a Course of Study

Since it is the purpose of this report to present helpful suggestions to those communities desiring to prepare courses of study in nature study and elementary science, it is important to consider some guiding principles according to which the material should be selected. Such principles are stated in this section of the report.

These principles are based upon a careful examination and critical review by the committee of the following sources of information:

1. Replies from questionnaires filled out and returned by sixty-three school systems.
2. Statements from courses of study in elementary science and nature study in fifty cities and states.
3. Statements from the following six books on nature study most frequently referred to in courses of study: (a) *The Hand Book of Nature Study* by Comstock, (b) *The Nature Study Idea* by Bailey, (c) *Nature Study and Life* by Hodge, (d) *Practical Nature Study* by Coulter and Patterson, (e) *Nature Study* by Holz, and (f) *Source Book of Nature Study* by Downing.

In submitting the following principles for the selection of subject matter, the committee presents them as representing what it believes to be the consensus of opinion among some of those best qualified to speak concerning nature study and elementary science. This statement of principles has not been arrived at as a result of educational investigation and research. The principles as stated are entitled only to that recognition which should be given to any such statement formulated on the basis of professional opinion.

Principles for the Selection of Material—1. The material should belong to the activities and experiences of childhood, and to the child's biological and physical environment, leading from the familiar to the unknown.

For example: A pet animal is a natural beginning for a mammal study, which may lead from the animals of the home and community to those of any community on the globe by way of the circus, zoo, or museum. However, animals of other sections of our country and of foreign countries must not be taught as nature study unless specimens may be studied.

2. The material should arouse the interest and curiosity of the child, and at the same time be such that he is able to see and determine most of the facts concerning it for himself.

For example: Starch making by plants is an interesting subject, but the child has no means of studying it, save by reading or being told what scientists have found, out. This and similar subjects should not be taught in the first six grades, but left for later years.

3. As soon as the child's interests and comprehension make it suitable, material having social value should be given preference over that which is interesting for itself alone.

For example: Teaching pollination in flowers lays the foundation for instruction in social hygiene. As compared with classification and recognition of flowers, it has an added value. Likewise, forest protection and the conservation of wild life, afford not only scientific knowledge but training of the highest order in citizenship. Owning and caring for a garden through a season is an experience in property rights which has often converted an unscrupulous child into one who could be trusted.

4. The material should be seasonal.

For example: The Christmas tree is most vitally interesting in the month of December. Caterpillars taught from pictures in February are a poor substitute for live specimens which are easily secured as material for study during the Fall.

5. The material should form a progressive and unified course and should be of sufficient variety to afford as broad an outlook upon the child's environment as the consideration of the four principles previously stated makes practicable.

The child at the end of his first seven years of school life should have engaged in a definitely progressive series of activities and experiences in connection with each science topic which he has studied. For example, he begins tree study by sorting the autumn leaves of the school yard according to their colors and shapes. From trees of the school yard, and the simplest facts concerning them, his interest leads him to the study of other neighborhood trees, nut trees, evergreens, the shade trees of the town, and finally to the forest on which all life so largely depends. Each year the activities and experiences which constitute his study broaden and deepen until the boy who in the kindergarten collected red leaves becomes in the sixth grade an active conservationist, planting trees and exerting all his influence in the cause of forest protection. Similar development should result from the pursuance of every topic in the course of study.

Insofar as the child's interests and environment make it practicable, local committees in making courses. of study are advised to include in the first six years of nature study and elementary science a representative animal or plant of each major group. For example, a child reaching the sixth grade in which he will give special attention to the economic value of birds and laws relative to them should, from the study of at least one from each group, know as many of the following kinds of birds as live in his community or as may be studied at the zoo or museum: water birds, shore birds, scratchers, doves, birds of prey, parrots, woodpeckers, goatsuckers, swifts, hummingbirds, and perching birds. Obviously such a program furnishes him a broader outlook upon the bird world than one based wholly upon one group, as perching birds for example. However, it must be remembered that the opportunity for original observation and investigation must be given priority over this consideration.

The same method should be applied to all the other phases of nature study, without losing sight of the fact that the work of the nature educator is not to give a course in systematic zoology, botany, nor physics, nor even to prepare the child for such courses, but to afford him a glimpse of the things that surround him, and of their relationship and significance to his own existence.

Regional and X, Y, Z Differentiations[1]

Regional differentiations—As has already been indicated, the foregoing statement of quantitative objectives and activities is not to be interpreted as an effort to present a course of study. Its purpose is merely to serve as a suggestion to each locality in working out its local course. The committee realizes that in spite of the utmost effort to include only material of a general nature the suggestions offered apply more fully to communities similar to Washington, D. C., than to communities where conditions are radically different.

Regional differentiations can best be made by the schools of a particular community to conform to their own environment. Schools near the coast will naturally study the forms of life to be found in the ocean and along the beaches. They will probably do less work with trees than schools farther inland. Schools far from any stream or body of water will have small opportunity to study water animals and plants. City school children will study the rabbit as a pet. In some rural communities it may be necessary to consider methods for the control of rabbits when garden or orchard projects are being carried on. In California drying fruit is a science project of real meaning in the life of the community. It would have little significance for a child in the District of Columbia.

For a comprehensive and wholly flexible organization of nature study and elementary science material, which "keeps the problems of the rural school teacher in mind at all times," without proving unsuitable for city schools the committee calls attention to "The Fieldbook of Nature Study" by E. L. Palmer, Comstock Publishing Company, Ithaca, New York. The book gives an outline of Nature Study, identification plates and life history charts of mammals, birds, fish, amphibians, reptiles, insects, other invertebrates, woody plants, and herbs, with landscapes, waterscapes and cut out pictures.

Dr. Palmer makes this statement regarding his plan for nature study in rural schools:

> The differences in the environment of the city and the rural child should be kept in mind in planning the work and in selecting the material. The scheme of organization in which the children of all grades may, if advisable, study a common material subject should do much to simplify the task of the city nature supervisor as it has for the rural teacher. Incidentally it should be a factor in expense reduction.
>
> In the first and second grade pupil activity may concern itself largely with orientation and recognition. Stories and games may be of assistance. The third and fourth grades may devote their activities to finding out for themselves things in nature which interest them. In the fifth and sixth grades this individual investigation may be associated with the experience of others as recorded in books and papers. The older children may learn how best nature may be modified to their needs.

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[1] The "X" group represents superior students; the "Y" group is average; and "Z" below average.

Criteria for selection of curriculum content—Is the material representative of the activity of the community? Does it contribute to the desired complex, the "complex" including not only the factors of the physical and biological environment but also including the child's development?

Trends as to practice. Returns from over 6,000 of New York's 15,000 rural teachers in the last two months indicate that there are an increasing number of teachers teaching all grades at once on a common topic; that there is an increasing tendency to use nature work as a motivation instead of as a separate subject.

Differentiation for X, Y, Z groups of pupils—The committee suggests that differentiation should be based on the amount and kind of work done with each topic rather than upon a distribution of topics. It is also suggested that not infrequently more rather than less nature study and elementary science are desirable in the case of the Z group, because of the universal interest of children in this subject, and the possibility of teaching almost all elementary grade subjects in correlation with it.

Detroit, Michigan, provides differentiation in its course of study in nature study and elementary science for the X, Y, Z groups of children in the first and second grades. It is stated by the supervisor of nature study in that city that this differentiation is based on individual judgment since there has not yet been time for experimentation or educational research. The committee has found no results of educational research in public school systems which would furnish a basis for differentiated courses of study for the X, Y, Z groups of children.

The Horace Mann School of Teachers College differentiates its program on nature study and elementary science for the sixth grade on the basis of sex. The girls receive instruction in personal hygiene, public health, and first aid, while the boys study inventions and modern conveniences of the home and community.

Helpful Supplementary Material and Unique Features of Nature Study and Elementary Science Courses

These data were compiled from a second questionnaire filled out and returned in time for tabulation by sixty-three school systems enrolled in the Cooperative Plan of Curriculum Revision, which had expressed a special interest either in nature study and elementary science or social science, or had expressed no special subject interest.

Vote as to most helpful supplementary magazines and books—Tables 2 and 3 list the magazines and books which sixty-three school systems have found most helpful in teaching elementary science and nature study. They are arranged according to frequency of mention.

Nine points of unique interest in elementary science teaching—These points were listed by the following schools systems:

1. Development of a course in social studies in which nature study is correlated with geography, history, and civics.—Minneapolis, Minnesota.
2. Correlation of nature study with health.—County of Wills, Illinois.

3. Making of textbooks by class from selected material.—Western State Normal Training School.
4. Cooperation of Smithsonian Institution and various departments of the government, especially the United States Department of Agriculture, with local school system. Corps of special teachers to carry on nature study work.—Washington, D. C.
5. Certificates of honor given to sixth grade pupils for excellence in science work. Pupil must have a home agricultural project, and a nature project such as a collection of wildflowers.—Pasadena, California.
6. Weekly nature study leaflets.—Glendale, California.
7. Bi-monthly nature study bulletins on such topics as: Local insect pests and methods of control, what to plant and how, what to look

TABLE 2.—VOTE OF 63 SCHOOL SYSTEMS AS TO SIX MOST HELPFUL SCIENCE MAGAZINES

Title of Magazine or Book	Publisher
Nature Magazine	1214 16th Street, N. W., Washington, D. C.
National Geographic Magazine	National Geographic Society, Washington, D. C.
Bird Lore	Audubon Society, Harrisburg, Pennsylvania
Popular Mechanics	Popular Mechanics Press, 200 E. Ontario Street, Chicago, Ill.
Popular Science	Modern Publishing Co., 250 4th Ave., New York City
Travel Magazine	Robert M. McBride, 7 West 16th Street, New York City

TABLE 3.—VOTE OF 63 SCHOOL SYSTEMS AS TO TEN MOST HELPFUL SUPPLEMENTARY BOOKS IN TEACHING ELEMENTARY SCIENCE

Author	Title	Publisher
Comstock, A. B.	Handbook of Nature Study	Comstock
Hodge, C. F.	Nature Study and Life	Ginn
Reed, C. A.	Bird Guide	Doubleday, Page
Reed, C. A.	Flower Guide	Doubleday, Page
Craig, J. B.	Nature Study for Boys and Girls	McIndoo
Compton, F. E.	Encyclopedia	F. E. Compton & Co.
Blanchan, N.	Bird Neighbors	Doubleday, Page
	Nature Study Library	Doubleday, Page
McMurray, L. B.	Nature Study—Lessons for Primary Grades	Macmillan
Trafton, G. H.	Science of Home and Community	Macmillan
Patterson, A. J.	Study of Nature	Public School Publishing Co.

for at the county fair, civic beauty campaign plans, plant exchange between school and homes.—Fresno, California.

8. Centralization of equipment in special rooms.—Birmingham, Alabama.
9. Designing and planning model homes and surroundings to teach modern home environment to the large foreign element in the schools. —San Jose, California.

Materials and equipment, visual aids and exhibits furnished nature study teachers—Out of the sixty-three selected school systems reporting, twenty furnished nature study teachers with lanterns and slides. Colored pictures are furnished by nine school systems, as are also desk books. Motion pictures are furnished by seven school systems, and stereographs by five. Audubon bird charts, miscellaneous charts, microscopes and slides, sand tables, terraria, aquaria, and outlines and bulletins are each furnished by three school systems. A set of Keystone slides, garden tools, bulbs and seeds, bird skins, and insect cages are each furnished by two school systems. In addition, fourteen other forms of nature material were listed once by as many cities.

Most successful types of nature study and elementary science teaching—Twelve out of the sixty-three school systems replying list field trips as the most successful type of nature study teaching; five, bird clubs, building bird houses and attracting birds; and four, gardening. The lack of agreement on this point is shown by the fact that only twelve school systems list the same type of teaching and also by the fact that twenty-one different types of work were each listed once.

Suggestions for improving the teaching of nature study and elementary science—The following suggestions were made from three to twenty-five times. They are listed in order of the frequency of their mention: (1) Better trained teachers, (2) Nature study textbooks, (3) Better organized and progressively arranged courses of study, (4) Better equipment, (5) Laboratories or special nature study rooms, (6) Special directors for the work, (7) More field trips, (8) More correlation with other subjects, (9) Nature magazines, (10) More time on school program, and (11) Better defined objectives based upon things really worthwhile.

How widely are museums used in nature study and elementary science teaching?—Of the sixty-three school systems reporting, six make extensive use of museums; three, occasional use; three borrow material from museums; and in one school system every school is working to have its own museum.

Report of a special investigation of nature study teaching—Data from one hundred and twenty-seven school systems in cities over five thousand population were reported in 1924 by Miss Clelia Paroni, supervisor of nature study in the schools of Berkeley, California, as chairman of the Committee on School Progress of the American Nature Study Society. The following abstract of Miss Paroni's report is made through the courtesy of herself and Dr. M. R. Van Cleve, president, American Nature Study Society.

Special nature rooms are reported by the following cities: Los Angeles, California, in six buildings; Sacramento, California, in nearly all buildings; San Francisco, California, in all new buildings; Gary, Indiana, in most buildings; Detroit, Michigan, in sixty-two platoon schools; Akron, Ohio, in half the buildings; and Pittsburgh, Pennsylvania, in all platoon schools.

The average weekly time allotment for nature study in these one hundred twenty-seven school systems was 30 minutes. Miss Paroni's report calls attention to the inadequacy of this time allotment for so valuable a subject as nature study, also to the fact that the larger cities which have supervisory staffs are giving it considerably more time.

While only twenty-two cities report special supervisors of nature study and elementary science, letters from superintendents of schools in other cities state that such specialists are needed until such time as teachers are adequately trained to teach nature study. There is unanimous realization of the inadequate training which the rank and file of teachers have had in nature study. Adequate supervisory staffs, however, can go a long way in ameliorating this condition.

Suggested Sources of Supplementary Teaching Material

I. *Departments of the National Government*—The United States Government Departments offer numerous publications and a considerable quantity of other material useful to teachers of nature study and elementary science. All of this material is recommended for the reliability of the information furnished, and its freedom from misleading propaganda. In most cases the publications are sent free upon request. This material is sent on condition that the borrower pay transportation charges both ways, and assume responsibility for any loss or breakage. Details in regard to these matters are given with each list of material.

A. Department of Agriculture:

1. Division of Agricultural Instruction.
    - a. Sources of maps, charts, photographs and prints.

      A list of maps, charts, and pictures relating to nature study, agriculture, biology and home economics; and the sources from which such material may be obtained for the use of schools.
    - b. Lantern Slides.

      A list. Each series of slides is accompanied by descriptive titles, supplemented by mimeographed or printed material in the form of explanatory notes, bulletins, circulars or syllabi. Though prepared primarily for teachers of agriculture, many of the series pertain to nature study and elementary science as the following titles of bulletins indicate: School Gardens—How and Why, Lessons in Planning and Planting a Garden, The Value of Birds in Relation to Agriculture, Types and Breeds of Horses, Corn, Flies and Their Control, Mosquitoes and Their Control, and The Production of Clean Milk.

c. Sources of exhibit and other illustrative material.

A list of sources of material on such subjects as: Cotton, Forestry, Birds, Corn Products, Feeds, Fertilizer, Silkworms, Spray Material, Wool.

d. Texts and references for elementary schools.

List of books supplementary to nature study and elementary agriculture. Special lists on pets and children's gardens.

e. Publications of the Department of Agriculture classified for the use of teachers.

Lists of publications including such subjects as Birds and Other Animals, Home and School Gardens, Arbor Day, Ornamental Gardening, Clean Milk, Sanitation, etc. In addition to the bulletins, there are in some cases circulars telling teachers how to use the bulletins.

All lists given under the heading "Division of Agricultural Instruction" may be obtained by applying to: Division of Agricultural Instruction, U. S. Department of Agriculture, Washington, D. C.

2. Bureau of Biological Survey.

A list of publications on birds and other animals. Requests for this list should be addressed to: Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C.

3. Forest Service.

a. Publications of the United States Forest Service. A list. Copies of any of them may be obtained without cost, as long as the supply lasts, on application to the Forester, Forest Service, Washington, D. C.

b. Special educational material: (1) Sets of colored lantern slides with lecture outlines, (2) charts showing commercially important woods of the United States, (3) series of enlarged photographs showing Forestry in Nature Study, (4) panels of enlarged pictures on "What Our Forests Mean to Us," and (5) panels of enlarged pictures on "Farm Woodlands."

These educational materials are loaned for short periods on condition that the borrower agrees to pay transportation charges, and to be responsible for the material while it is in his possession.

c. General educational material: (1) Slides from the general collection, without syllabus, loaned on same conditions as special set—arrangements may be made for their purchase, (2) photographic prints, which may be purchased at cost, and (3) wood samples, sets of samples of thirty representative American woods—these are sent only to teachers, as loans for short periods.

d. Motion Pictures: One and two reels of particular interest to schools. Application should be made as far as possible in advance of the date they are desired. Subjects: Forest Fire Prevention; Reforestation; Lumbering; Grazing; Forest Service Work; Forests as Reservoirs; Game Protection; Scenery and Recreation. Prints of films on standard width slow-burning stock may be purchased at approximately $33 for each reel of 1,000 feet.

The Forest Service will furnish additional information and cooperate in any way possible.

4. Office of Motion Pictures.

Films of the Department of Agriculture. A list including such subjects as: Birds, Trees, Wild Animals, Insects, Forest Fires, Gardening, etc.

Requests for this list should be addressed to: Mr. Fred Perkins, Office of Motion Pictures, U. S. Department of Agriculture, Washington, D. C.

5. Weather Bureau.

"Educational Series," describing the work of the Weather Bureau, consisting of: (1) One weather map; (2) Pamphlets, as follows: "Explanation of the Weather Map," "Wind-Barometer Table," "Publications of the U. S. Weather Bureau," and "The U. S. Weather Bureau", and (3) Chart of Cloud Pictures.

The "Educational Series" cannot be furnished in quantities.—Principals and teachers are furnished copies for class use, but it is impossible to comply with requests from pupils or to supply copies for the whole class. Requests should be addressed to: Chief of Printing Division, Weather Bureau, U. S. Department of Agriculture, Washington, D. C.

B. Department of the Interior:

1. Bureau of Education.

List of books and articles on Nature Study. Requests for this list should be addressed to: Bureau of Education, U. S. Department of the Interior, Washington, D. C.

II. *State Departments and Institutions*—In many cases extension bulletins are issued by the following state departments, institutions, and organizations which are available to teachers upon request: State Agricultural Colleges, Agricultural Experiment Stations, Boards of Agriculture, Boards of Education and Departments of Public Instruction, Botanical and Other Societies, Departments of Geology, Natural History, etc., Fish and Game Commissions, Normal Schools, University Agricultural Experiment Stations, Conservation Committees of Federated Clubs of States, and Foresters or Boards of Forestry.

III. *Miscellaneous Sources*—The following organizations issue free publications useful to teachers: American Game Protection Association, 233 Broadway, New York; National Cash Register Company, Dayton, Ohio, Pamphlet—"The Boy Gardeners"; Permanent Wild Life Protection Fund—W. I. Hornaday, Stamford, Connecticut; and School Garden Association of America, 4852 Broadway, New York City.

The organizations listed below have publications, etc., for free distribution and other material which is sold at reasonable prices:

1. American Nature Association, 1214 - 16th Street N. W., Washington, D. C.

Questions and requests for information and advice as to any detail of nature study and nature study teaching in public or private schools will be answered. All communications should be addressed to: Department of Nature Education, American Nature Association, 1214 - 16th Street N. W., Washington, D. C.

The Association is conducting a survey of the status of nature education of the country. If it finds there is a need for particularly prepared pamphlets for the assistance of teachers, supervisors, and pupils, it proposes to publish such a series. It is possible that this may appear as a quarterly periodical, one number of which will be devoted to the teacher's use and the other numbers to the use of pupils.

2. Comstock Publishing Company, Ithaca, New York.
3. International Harvester Company, Chicago, Illinois.
4. National Association of Audubon Societies, 1974 Broadway, New York City.
5. National Wildflower Preservation Society, 3740 Oliver Street, Washington, D. C.

A List of Books on Nature Study and Elementary Science for Teachers and Pupils

In reporting these books as useful for the teacher and grade pupil, the subcommittee on bibliography does not wish to go on record as limiting the excellence and usefulness of numerous other books of like character; but in examining several hundred, those listed seemed entitled to selection as especially suited for purposes of instruction and reference. Seventeen magazines are also chosen.

The numerous "general" or "elementary" science texts now being published for seventh, eighth and ninth grades could be used with good results as reference books for younger pupils. Some excellent and well-known books on the special subjects have had to be omitted from this list, being out of print and so not always available. Many such, however, may be found on shelves of local libraries.

Magazines Dealing with Nature Study and Elementary Science.

Title	Publisher and Address
National Geographic Magazine	16th and M Streets, N. W., Washington, D. C.
Nature Magazine	1214 16th Street, N. W., Washington, D. C.
Natural History Journal	American Museum of Natural History, New York City, N. Y.
The Guide to Nature	Agassiz Association, Sound Beach, Connecticut.
Bird Lore	Organ of the Audubon Societies, Harrisburg, Pa
Wild Flower	Organ of the Wild Flower Preservation Societies, 1728 Chase Avenue, Cincinnati, Ohio.
Monthly Evening Sky Map	Leon Barritt, Arbuckle Building, 367 Fulton Street, Brooklyn, New York.
The Scientific American	Scientific American Publishing Co., 233 Broadway, New York City, N. Y.
The Scientific Monthly	Garrison, New York.
Popular Mechanics	Popular Mechanics Press, 200 E. Ontario Street, Chicago, Illinois.
School Science and Mathematics	Mount Morris, Illinois.

Magazines Having Special Nature Study Departments or Frequent Helpful Articles

The Normal Instructor and Primary Plans.	F. A. Owen Publishing Company, Dansville, N. Y.
Literary Digest	Funk and Wagnalls Co., 354–60 4th Ave., New York City, N. Y.
Elementary School Journal	University of Chicago Press, Chicago, Illinois.
St. Nicholas	Century Co., New York, N. Y.

NATURE STUDY BOOKS FOR TEACHERS AND PUPILS

Author	Title	Publisher	Year of Publication
	Source Books and Books on Teaching Nature Study (For Teachers)		
Bailey, Liberty Hyde	The Nature Study Idea	Doubleday, Page	1903
Comstock, A. B.	Handbook of Nature Study	Comstock	1911
Coulter, J. M. and others	Practical Nature Study and Elementary Agriculture.	Appleton	1909
Downing, E. R.	Our Living World, A Source Book of Biological Nature Study.	University of Chicago	1923
Downing, E. R.	Field and Laboratory Guide in Biological Nature Study.	University of Chicago	1918
Fox, Florence C	Cycles of Garden Life and Plant Life	U. S. Bureau of Education	1925
Hodge, C. F.	Nature Study and Life	Ginn	1902
Holtz, F. L.	Nature Study	Scribner's	1908
McMurray, L. B.	Nature Study Lessons for Primary Grades.	Macmillan	1905
Palmer, E. L.	Field Book of Nature Study	Comstock	
Scott, Charles B.	Nature Study and the Child	Heath	1900
Thomson, J. A.	Nature All the Year Round	Pilgrim Press	1921
	Books on Nature Study in General (For Pupils)		
Cummings, H. H.	Nature Study by Grades	American Book Co.	1908–09
Dorland, George W.	In the Open Air	McIndoo Publishing Co.	1924
Fairbanks, H. W.	Conservation Reader	World Book Co.	1920
Smith, E. L. and Van Buskirk, E. F.	Science of Everyday Life	Houghton, Mifflin	1925
	Biological Nature Study		
	Books on Birds and Mammals[1] (For Teachers)		
Bailey, F. A.	Handbook of Birds of Western United States.	Houghton, Mifflin	1902
Blanchan, N.	Birds Worth Knowing	Doubleday, Page	1917
Burba, G. F.	Our Bird Friends	Outing Publishing Co.	1908
Burroughs, John	Wake Robin	Houghton, Mifflin	1899
Chapman, F. M.	Handbook of Birds of Eastern North America.	Appleton	1912
Cornish, Selous, Johnston and Maxwell.	Living Animals of the World	Dodd, Mead	1902
English, D.	Friends of Mankind	Dutton	1924
Fabre, J. H.	Our Humble Helpers	Century	1918
Hornaday, W. T.	Our Vanishing Wild Life	Scribner's	1913
Mitchell, P. C.	The Childhood of Animals	Stokes	1912
Patteson, S. L.	How to Have Bird Neighbors	Heath	1917
Pearson, T. G.	The Bird Study Book	Doubleday, Page	1917
Wood, C. D.	Animals; Their Relation and Use to Man.	Ginn	1912
Wright, M. O. and Coues, E.	Citizen Bird	Macmillan	1897
	Books on Birds and Mammals (For Pupils)		
Burgess, T. W.	Animal Book for Children	Little, Brown	1920
Burgess, T. W.	Bird Book	Little, Brown	1919
Champlin, J. D. and Lucas, Frederic A.	Young Folks Cyclopaedia of Natural History.	Holt	1905
Chapman, F. M.	The Travels of Birds	Appleton	1916
Chase, Annie	Stories from Birdland	Educational Publishing Co.	1924
Henshaw, H. W.	The Book of Birds	National Geographic Society.	1918
Mulets, L. E.	Stories of Big Animals	L. C. Page	1913
Reed, Chester Albert.	Bird Guides: Water Birds, Game Birds, and Birds of Prey East of the Rockies.	C. K. Reed	1910
Rogers, J. E.	Wild Animals Every Child Should Know	Doubleday, Page	1911
Sharp, Dallas Lou	Watcher in the Woods	Century	1903
Wright, M. O.	Four-footed Americans and Their Kin	Macmillan	1906
	Pocket Bird Collections, 1, 2, 3, 4	National Association of Audubon Societies.	

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[1] The books of the following authors will also be found helpful: E. H. Baynes, C. W. Beebe, Dan Beard, John Burroughs, W. T. Hornaday, E. Ingersoll, W. J. Long, O. T. Miller, Enos Mills, Edith Patch, C. G. D. Roberts, Seton E. Thompson.

NATURE STUDY BOOKS FOR TEACHERS AND PUPILS

Author	Title	Publisher	Year of Publication
	Books on Insects (For Teachers)		
Comstock, J. H.	How to Know Butterflies	Appleton	1904
Fabre, J. H.	Social Life in the Insect World	T. F. Unwin	1912
Felt, E. P.	Manual of Tree and Shrub Insects	Macmillan	1924
Gibson, W. H.	Blossom Hosts and Insect Guests	Newson	1901
Howard, L. O.	The House Fly, Disease Carrier	Stokes	1911
Hunter, Samuel	Elementary Studies on Insect Life	Crane	1902
Scudder, Samuel H.	Everyday Butterflies	Houghton, Mifflin	1899
Washburn, F. L.	Injurious Insects and Useful Birds	Lippincott	1918
	Books on Insects (For Pupils)		
	Boy Scout Manual, Insect Life Merit Badge.	Boy Scouts of America.	1925
Maeterlinck, Maurice	Children's Life of the Bee	Dodd, Mead	1919
Morley, M. W.	Grasshopper Land	McClurg	1907
Morley, M. W.	Wasps and Their Ways	Dodd, Mead	1900
	Books on Other Invertebrates, and Amphibians, Fish and Reptiles (For Teachers)		
Baskett, James N. and Ditmars.	The Story of the Amphibians	Appleton	1902
Berridge, W. S.	Animal Curiosities	Small, Maynard	1923
Comstock, J. H.	The Spider Book	Doubleday, Page	1912
Cornish, Selous, Johnston and Maxwell.	Living Animals of the World, Vol. II	Dodd, Mead	1902
Ditmars, R. L.	Reptiles of the World	Sturgis and Walton	1910
Dickerson, M. C.	Frog Book	Doubleday, Page	1906
Duncan, F. M.	Life in Deep Sea	Milford	1923
Eggeling, Otto and Ehrenberg, Frederick	Fresh Water Aquarium and Its Inhabitants.	Holt	1908
Hornaday, W. T.	American Natural History	Scribner's	1904
Kelman, J. H. and Wood, Rev. T.	The Sea-Shore	T. C. and E. C. Jack	....
Needham, J. and Lloyd, John T.	Life of Inland Waters	Comstock	1916
Rogers, Julia Ellen	The Shell Book	Doubleday, Page	1908
	Books on Other Invertebrates, and Amphibians, Fish and Reptiles (For Pupils)		
Comstock, A. B.	Pet Book	Comstock	1916
Duncan, F. M.	Wonders of the Shore	Milford	1923
Mulets, L. E.	Stories of Little Fishes	L. C. Page	1905
Pierson, C. D.	Among the Pond People	Dutton	1901
Wright, J. MacNair	Seaside and Wayside Nature Readers	Heath	1900
	Books on Trees, Other Plants, and Gardens (For Teachers)		
Atkinson, G. F.	First Studies of Plant Life	Ginn	1901
Bailey, L. H.	Garden Making	Macmillan	1908
Clute, W. N.	Our Ferns in Their Haunts	Stokes	1901
Cook, E. T.	Gardening for Beginners	Scribner's	1901
Gaye, Selina	The Great World's Farm	Macmillan	1900
Georgia, Ada	Manual of Weeds	Macmillan	1914
Going, Maud	Our Field and Forest Trees	McClurg	1916
Keeler, H. L.	Our Native Trees and How to Identify Them.	Scribner's	1900
Lounsberry, Alice	Guide to the Wild Flowers	Stokes	1902
Macdougal, D. T.	The Nature and Work of Plants	Macmillan	1900
Mathews, Ferdinand S.	Field Book of American Wild Flowers	Putnam's	1902
Needham, J. G.	Natural History of the Farm	Comstock	1913
Pack Charles L.	Trees as Good Citizens	American Tree Ass'n.	1922
Parsons, F.	How to Know Wildflowers	Scribner's	1900
Parsons, F.	How to Know Ferns	Scribner's	1899
Parsons, F. T. and Dana, Mrs. W. S.	How to Know the Wildflowers	Scribner's	1900
Rogers, J. E.	Among Green Trees	Mumford	1902
Rogers, J. E.	Trees Worth Knowing	Doubleday, Page	1917
Roth, Filebert	First Book of Forestry	Ginn	1902
Sargent, F. L.	Plants and Their Use	Holt	1913
Skilling, W. T.	Nature Study Agriculture	World Book Co.	1920

NATURE STUDY BOOKS FOR TEACHERS AND PUPILS

Author	Title	Publisher	Year of Publication
	Books on Trees, Other Plants, and Gardens (For Teachers)—*Continued*		
Stokes, Susan	Ten Common Trees	American Book Co.	1901
Stubenrauch, Arnold V.	Horticulture for Schools	Macmillan	1922
Weed, C. M.	Wild Flower Families	Lippincott	1908
	Practical Key and Flora	Holt	
	Books on Trees, Other Plants and Gardens—(For Pupils)		
Burgess, T. W.	The Burgess Flower Book for Children.	Little, Brown	1923
Burkett, C. W.	Agriculture for Beginners	Ginn	1903
Hemenway, H. D.	How to Make School Gardens	Doubleday, Page	1903
Pack, Charles L.	School Book of Forestry	American Tree Ass'n	1922
Pinchot, Gifford	A Primer of Forestry	Forest Service Bulletin, U. S. Dept. of Agriculture.	1909
Reed, C. A.	Flower Guide (Wild Flowers East of the Rockies)	Doubleday, Page	1910
Rogers, J. E.	Trees Every Child Should Know	Doubleday, Page	1909
Shepard, Hiram H.	Life on the Farm	Flanagan	1901
Stack, F. W.	World Flowers Every Child Should Know.	Doubleday, Page	1914
	Physical Nature Study Books on Earth Forms, Atmosphere, and Heavenly Bodies (For Teachers)		
Abbott, C. G.	Earth and Stars	D. Van Nostrand and Co.	1925
Brooks, C. S.	Why the Weather?	Harcourt, Brace	1924
Downing, E. R.	Our Physical World—A Source Book of Physical Nature Study.	University of Chicago	1924
Downing, E. R.	Field and Laboratory Guide in Physical Nature Study.	University of Chicago	1920
Fairbanks, H. W.	Stories of Rocks and Minerals	Educational Publishing Co.	1903
Humphreys, W. J.	Weather Proverbs and Paradoxes	Williams and Wilkins	1923
Lewis, I. E.	Splendors of the Sky	Duffield	1919
Martin, M. E.	Friendly Stars	Harper's	1907
Olcott, W. T.	A Field Book of the Stars	Putnam's	1907
Peck, C. H.	Our World	Franklaye Press	1921
Rochlean, W. F.	Minerals—Great American Industries Series.	Flanagan	1922
Shaler, N. S.	Aspects of the Earth	Scribner's	1889
Talman, C. F.	Our Weather—Popular Science Library	Collier's	1922
	Books on Earth Forms, Atmosphere, and Heavenly Bodies (For Pupils)		
Collins, A. F.	The Book of Stars	Appleton	1915
Martin, M. E.	The Ways of the Planets	Harper's	1912
Payne, F. O.	Geographical Nature Studies	American Book Co.	1898
Thompson, Jeanette M.	Water Wonders Every Child Should Know.	Doubleday, Page	1907
	Books on General Science and the Teaching of General Science (For Teachers)		
Barber, F. D. and others.	Science for Beginners	Holt	1921
Bowden, G. A.	General Science	Blakiston's Son	1923
Brownell, H.	Textbook in General Science and Economics of Daily Life.	Blakiston's Son	1918
Brownell, H.	The Teaching of Science and the Science Teacher.	Century	1925
Caldwell, Eikenberry, and Glenn.	Elements of General Science, Laboratory Problems.	Ginn	1924
Caldwell and Eikenberry.	General Science	Ginn	1924
Clark, Bertha M.	An Introduction to Science	American Book Co.	1915
Downing, E. R.	Teaching Science in the Schools	University of Chicago	1925
Eikenberry, L. W.	Teaching of General Science	University of Chicago	1922
Elhuff, L.	General Science	Heath	1925

Author	Title	Publisher	Year of Publication
	Books on General Science—Con't.		
Kendall, C. N. and Mirick, G. A.	How to Teach the Special Subjects	Houghton, Mifflin	1918
Lake, C. H.	General Science	Silver, Burdett	1917
McMurry, Charles A.	Special Method in Elementary Science for the Common School.	Macmillan	1904
Slosson, E. E.	Chats on Science	Century	1924
Smith, E. L.	Everyday Science	Houghton, Mifflin	1925
Snyder, W. H.	Everyday Science	Allyn and Bacon	1919
Tower, S. F. and Lunt, J. R.	The Science of Common Things	Heath	1922
Trafton, G. H.	Science of Home and Community	Macmillan	1919
Trafton, G. H.	The Teaching of Science in the Elementary School.	Houghton, Mifflin	1918
Twiss, G. R.	Textbook on the Principles of Science Teaching.	Macmillan	1917
Woodhull, J. F.	Teaching of Science	Macmillan	1918
	Books on General Science (For Pupils)		
Baker, R. S.	Boys' Second Book of Invention	Doubleday, Page	1903
Chambers, M. D.	Nature Secrets	Atlantic Monthly Press.	1923
Churchill, A. L. and Wickenden, L.	The House-Owners' Book	Funk and Wagnalls	1922
Fabre, J. H.	Wonder Book of Science	Hodder and Stoughton.	1921
Fournier d'Abbe, E. E.	Wonders of Physical Science—Harper's Electricity Book for Boys.	Macmillan	1910
Rowell, P. E.	Elementary General Science (4 vols)	Rowell, P. E.	1913
Rowell, P. E.	Science for the Fifth Grade	Rowell, P. E.	1913

The Addresses of the Publishers of the Above Books Are as Follows

Publisher	Address
Allyn and Bacon	50 Beacon Street, Boston, Massachusetts.
American Book Co.	100 Washington Square, New York City.
American Tree Association	1214 16th Street, Washington, D. C.
Atlantic Monthly Press	8 Arlington Street, Boston, Massachusetts.
D. Appleton and Co.	29 W. 32d Street, New York City.
Century Co.	353 4th Ave., New York City.
Comstock Publishing Co.	23 Warren Street, New York City
Crane & Co.	Topeka, Kansas.
Dodd, Mead & Co.	443 4th Ave., New York City.
Doubleday, Page & Co.	Garden City, New York.
Duffield & Co.	211 E. 19th Street, New York City.
E. P. Dutton & Co.	681 5th Ave., New York City.
Educational Publishing Co.	234 Boylston, Boston, Massachusetts.
A. Flanagan Co.	521 S. Laflin, Chicago, Illinois.
Funk and Wagnalls Co.	354 4th Ave., New York City.
Ginn & Co.	15 Ashburton Pl., Boston, Massachusetts.
Harcourt, Brace & Co.	383 Madison Ave., New York City.
Harper & Bros.	333 Pearl Street, New York City.
D. C. Heath & Co.	50 Beacon Street, Boston, Massachusetts.
Henry Holt & Co.	19 West 44th Street, New York City.
Hodder & Stoughton, Lim.	London, England.
Houghton, Mifflin Co.	2 Park Street, Boston, Massachusetts.
T. C. and E. C. Jack	London, England.
J. B. Lippincott Co.	E. Washington Square, Philadelphia, Pennsylvania.
Little, Brown & Co.	34 Beacon Street, Boston, Massachusetts.
A. C. McClurg & Co.	330 E. Ohio Street, Chicago, Illinois.
McIndoo Publishing Co.	Kansas City, Missouri.
Macmillan Co.	66 5th Ave., New York City.
Outing Publishing Co.	141 W. 36th Street, New York City.
L. C. Page & Co.	53 Beacon Street, Boston, Massachusetts.
Pilgrim Press	14 Beacon Street, Boston, Massachusetts.
Public School Publishing Co.	Bloomington, Illinois.
G. P. Putnam's Sons	2 W. 45th Street, New York City.
C. K. Reed	Worcester, Massachusetts.
Charles Scribner's Sons	597 5th Ave., New York City.
Silver, Burdett & Co.	221 Columbus Ave., Boston, Massachusetts.
Small, Maynard & Co.	41 Mt. Vernon Street, Chicago, Illinois.
F. A. Stokes Co.	443–449 4th Ave., New York City.
University of Chicago Press	58th Street and Ellis Ave., Chicago, Illinois.
T. F. Unwin	London, England.
D. Van Nostrand Co.	8 Warren Street, New York City.
Williams & Wilkins Co.	Mt. Royal and Guilford Aves., Baltimore, Maryland.
World Book Co.	Park Hill, Yonkers-on-Hudson, New York.

CHAPTER V

HANDWRITING

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HARRY HOUSTON, Supervisor of Penmanship, New Haven, Connecticut.
ELLEN C. NYSTROM, Supervisor of Penmanship, Minneapolis, Minnesota.
ARTHUR G. SKEELES, Supervisor of Writing, Columbus, Ohio.
H. C. WALKER, Supervisor of Penmanship, Kirkwood, Missouri.

THIS SUMMARY of the reports of the committee on the curriculum in handwriting presents the outstanding practices and general tendencies in handwriting at the present time. This summary embodies the efforts of the committee to present to school superintendents, teachers, and others concerned, the handwriting practices, general tendencies, and writing materials which the committee believe will be effective in building a course of study in handwriting.

The committee has attempted to present the best ideas and practices found in school systems where research has been carried on and a definite effort put forth to study and analyze the needs and purposes of instruction in handwriting.

The values which the committee feels are important in developing a course of study in handwriting are: (1) Individual and group instruction, (2) A definite technique of study, (3) A means for the individual pupil to progress at his own rate, (4) A procedure which provides growth in the development of social habits as well as the skill to write, (5) Use of tests as an aid in instruction, and (6) Progress of pupils in X, Y, and Z groups. (Intelligence rating.)

I. What the Subject Is For

A. *General Aims and Objectives*

1. To develop sufficient skill to enable pupils to write easily, legibly, and rapidly enough to meet present needs and social requirements.

2. To equip the child with methods of work so that he will attack his writing problems intelligently.

3. To diagnose individual writing difficulties.

4. To aid the child to recognize and make use of his peculiar individual learning capacities.

5. To provide experiences which will tend to develop in the child more power to direct his own practice and more ability to judge whether or not he is succeeding in that practice.

6. To provide the means for each individual to progress at his best rate.

7. To develop an appreciation of the relationship between correct body adjustment and an efficient writing production.

8. To secure acceptable and customary arrangement and form for written work (margins, spacing, etc.).

9. To develop a social urge to use the skill attained in all writing situations.

10. To train pupils to be able at the end of the sixth grade, to write quality 60 (Ayres scale) or better, and at a rate 70 letters per minute or better.

B. *Specific Aims and Objectives*

Grade I

1. To make clear the use of the pencil as a means of communication.

2. To challenge the child to assume the responsibility of being sure he is able to write fluently and independently the letters in words and sentences suitable to the grade level.

3. To acquaint the child with a good way of holding the pencil, placing the paper, and of a good position while writing.

4. To develop useful habits: (a) use of definite technique for study; (b) clear and neat arrangement of work on study and test paper; (c) care of and handling of material in an orderly manner.

5. To aid the pupil to conceive the idea that his success in writing depends upon how well others are able to read his written words and sentences.

6. To acquaint the child with the units of motion involved in the writing of the words.

7. To name and make in words and sentences all the small letters needed in connection with the other activities of the grade.

Grade II

1. To recognize the spelling-writing period as affording an opportunity to develop desirable attitudes, habits, and purposes, as well as to learn to spell and write.

2. To emphasize and develop further the objectives of the previous grade.

3. To lead the child to sense the advantage of self improvement.

4. To encourage the pupil to persevere in the attempt to write words and sentences correctly and independently.

5. To encourage the discovery of individual writing difficulties, and the recognition of specific points for practice.

6. To lead the child to acquire a sense of appreciation and pleasure in being able to write words and sentences correctly and independently.

7. To aid the child to write independently words which contain all the letters of the alphabet, paying particular attention to difficult combinations such as *om, on, vo, wo,* etc.

8. To aid him to make all the capitals and figures commonly used for carrying out the activities of this grade.

Grades III and IV

1. To recognize the writing period as furnishing an opportunity to develop purposes, habits, and attitudes as well as skill in writing.
2. To acquaint the child with a good way of using the new writing tool. (Pen and ink.)
3. To lead the child to see the difference between his writing and that of his grade level in specific terms such as *alignment, spacing, slant,* etc.
4. To develop in the child a way of attacking his lesson by leading him to determine his own difficulties and showing him how to overcome these difficulties in a manner best suited to his way of learning.
5. To provide objective means to indicate that progress is being made.
6. To lead the child to assume responsibility for making progress.
7. To encourage him to practice intelligently upon his particular writing problems by using a definite technique of study.
8. To encourage him to try again if he does not succeed in a unit of work.
9. To develop a habit of investigation for the purpose of finding out the ways and means by which improvement may be made.
10. To train him to evaluate and appraise his own work.
11. To aid him to improve in muscular coordination, so that the small letters are made fairly even, the tall letters tall, and a regular slant is maintained.
12. To develop a social urge to use the skill attained in all writing situations.
13. To care for and handle all material in an orderly manner.

Grades V and VI

1. To recognize the writing period as furnishing opportunity to develop purposes, habits, and attitudes as well as skill in writing.
2. To improve in muscular coordination and skill in the manipulation of the writing tool.
3. To lead the child to see the difference between his writing and that of the standard for his grade level, in order to have a basis for practice.
4. To provide assistance in the way that is best suited to the individual's way of learning.
5. To make more careful distinctions in letter formation, and relative height of small, tall, and capital letters.
6. To become more familiar with the terms, *slant, spacing,* and *alignment.*
7. To lead the child to realize the effect of a well balanced position upon the quality of writing.
8. To provide objectives, means to indicate that progress is being made.
9. To lead the child to assume responsibility for making progress.

10. To develop a writing consciousness and social urge to use the skill acquired in all writing situations.

11. To provide situations to make *use* of the ability acquired.

12. To encourage the pupil to practice intelligently upon his particular writing problems by using a definite technique of study.

13. To encourage him to try again if he does not succeed in a particular unit of work.

14. To help acquire a habit of investigation for the purpose of finding out ways and means by which improvement may be made.

15. To encourage the child to ask for specific help.

16. To train him to evaluate and appraise his work.

17. To aid him to improve in muscular coordination so that the small letters are made fairly even, the tall letters tall, and a regular slant is maintained.

18. To keep a neat record of progress made.

19. To strengthen the feeling of pride for well-organized, pleasing arrangement and well-written units of written work.

II. Illustrative Material and Pupil Activities

A. *Use of Tests as a Means of Improving Instruction*

Standard tests given in handwriting at the beginning and end of the semester serve as a stimulating basis of work on the part of both teacher and pupils. The following outline indicates the use made of the tests and the division of effort between teacher and pupil.

1. Inventory

Teacher Activity	*Pupil Activity*
a. The tests show the teacher what the children are able to do, in other words define her task for the term.	a. The tests tell the child how he stands in relationship to the standard for his grade.

2. Analysis and Diagnosis

Teacher Activity	*Pupil Activity*
a. To explain to pupils the specific points of the standard quality for the grade level.	a. To determine the difficulties peculiar to his writing such as *slant, height of small and tall letters,* and *spacing.*
b. To lead pupils to see the differences between their writing and good writing for their particular grade.	

The following diagram of a semester's work may help to make plain the division of effort between teacher and pupils:

	Value of Initial or or Inventory Test	**What the Period of Work Is For**	**Value of Final or Appraisal Test**
Teacher's part	Shows teacher what children are able to do	To stimulate To aid To reward	Shows teacher effect of her teaching
Pupil's part	Tells the child how he stands in relation to the standard for his grade	To purpose to improve To practice To analyze failure To ask for assistance To persevere	Shows child the effect of his practice and effort

B. *Individual Progress*

A course of study consisting of thirty lessons was used by the group of 2B children represented in the "Individual Progress Chart," page 118.

The first three lessons in the course contain all the letters that are used in the entire course so that pupils work together until the writing and spelling of the words in those lessons are generally well mastered. After this the first lesson is dictated and all pupils who get the entire lesson correct may go on to the next lesson the following day. This process, study, then dictation, is continued so that pupils may progress at their own rate.

The L. R. column is the intelligence rating of the various individuals in the class. "X" indicates the superior pupils, (seven children in this class), "Y" the average, (twenty-three pupils), and "Z" the slow pupils, (eleven).

The chart shows the progress made by the various individuals during the four months. It will be noted that the children were kept together part of the first month. The progress was more varied during the second and third months.

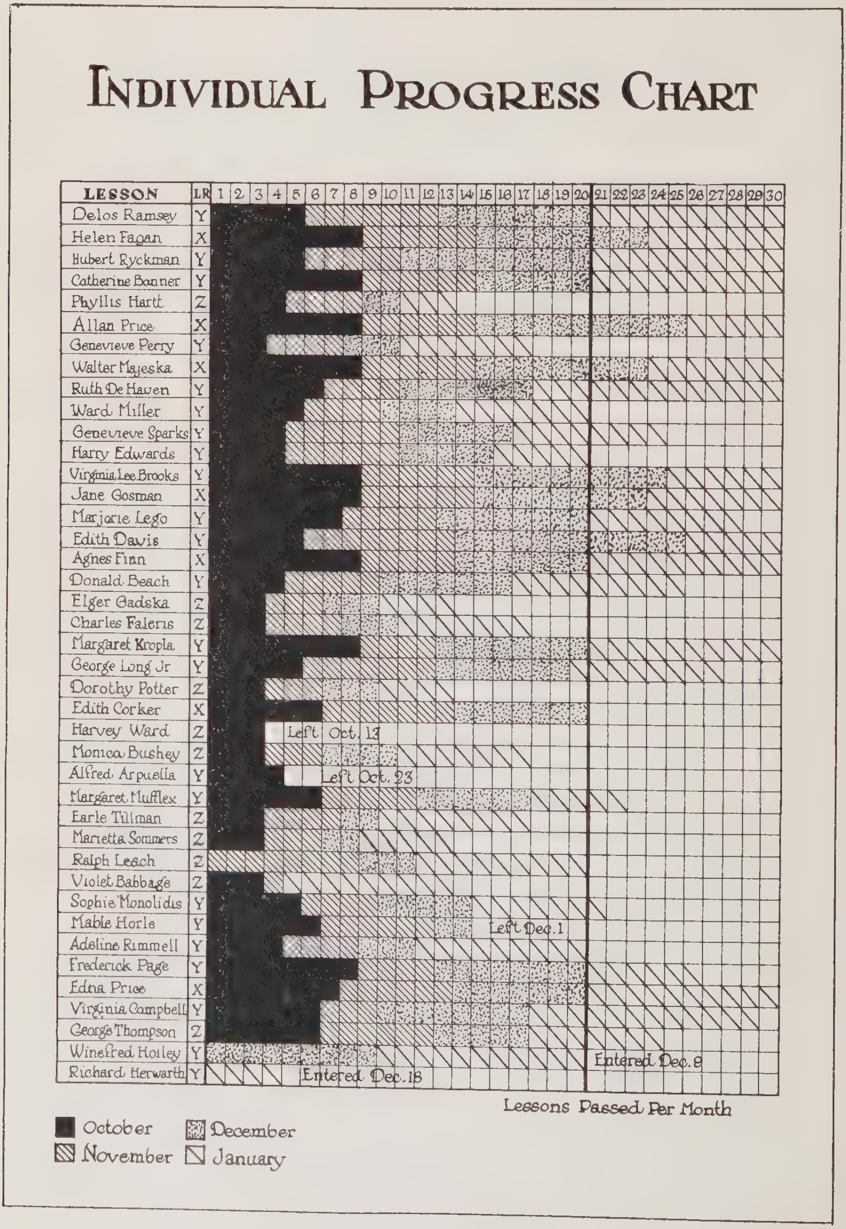
The heavy vertical line drawn between lessons twenty and twenty-one indicates the essential lessons of the course. The superior pupils finished the twenty lessons and ten additional lessons, which include words equal in difficulty to those of the earlier lessons and provide opportunity for growth in vocabulary. These lessons in no way overlap the work of the next grade.

It will be noticed that the seven X pupils completed the twenty lessons and ten additional lessons. Seven of the Y children completed the same amount of work as the X children. Five of the Z children passed thirteen lessons, three passed seventeen lessons, one, nineteen, and one child passed the twenty and four additional lessons.

This shows clearly that there is no rigid grouping but that each child progresses as fast as he is able.

The Z pupils must complete the twenty lessons the following term before taking up the series of lessons for the next grade.

CHART III



This chart shows the progress made by the 2B pupils in a spelling-handwriting course of study. The figures across the top represent the twenty essential lessons of the course and ten additional lessons (21-30) for the better pupils. The L. R. column indicates the intelligence rating of the members of the group, X representing the superior, Y the average, and Z the slow pupils.

The chart was contributed by Gladys M. Cook, teacher, Tappan School, Detroit, Michigan.

C. *A Scale for Rating Movement.*

Penholding, position, and movement should be taught only so much as is necessary to further the attainment of the standards set up for speed and legibility. A study is being made of the degree of proficiency necessary to attain these standards. The evidence so far shows that these standards can be met by pupils having a rating of "fair" or "good" on the scale presented for rating movement. "Fair" or "good" includes the use of the arm, but there is nothing in the scale to exclude finger movement.

Pupils were not rated during penmanship practice, but were judged by how they habitually wrote in other subjects. Pupils studied the scale and rated themselves. See page 120.

The commonly used standard for penmanship practice has been like illustration No. 3 on the scale with finger movement excluded. It is believed that this has been quite largely the cause of two distinct ways of writing, one for penmanship practice and another for other writing. By accepting the rating of "fair" and "good," this fault can be overcome and better results obtained.

D. *Type Lessons Which Aim to Illustrate Principles, Procedure, and Technique in Teaching Handwriting.*[1]

The principles of the type lessons given below may be applied to the work of any or every grade. Application and adaptation to the needs of pupils of varying ages, abilities, rates of learning, and physical endurance must be made by the teacher.

Our Doll House.[2] When working upon a doll house in our first grade room we decided to keep a book to remind us of the articles we must make for the house.

We agreed that the writing would have to be large so that children in any part of the room could see it and *good enough* so that they could read it.

The children wished to use large newsprint paper and decided to choose for writers in the book only those children who wrote large, "with well-formed letters."

The project was started with the group of best writers.

The words to be written, as *wall, roof, shingles, bricks,* etc. were chosen by the children with the advice of the teacher.

As each word was selected it was written upon the blackboard by the teacher in a clear, large, distinct, smooth hand while the pupils watched, since the teacher felt that observation of how to write the word was as important as what to write.

The word was then discussed, that is, the comparative size of letters, the number of down lines (down strokes) in certain letters, the number

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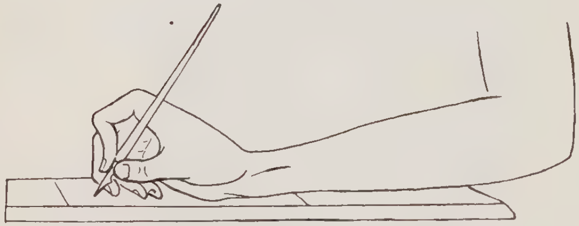
[1] This section was contributed by Alice E. Benbow, supervisor of handwriting, Trenton, New Jersey.

[2] Statement prepared by Alice F. Fishberg, Girard School, Grade One, Trenton, New Jersey.

CHART IV

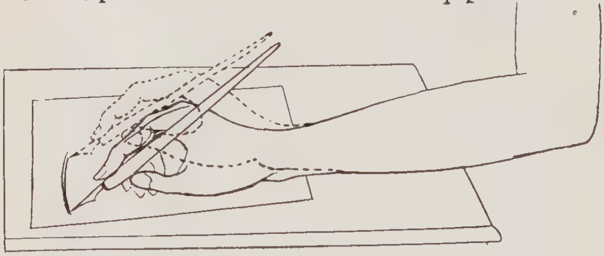
SCALE for RATING MOVEMENT



No. 1. Limited to finger movement.
POOR

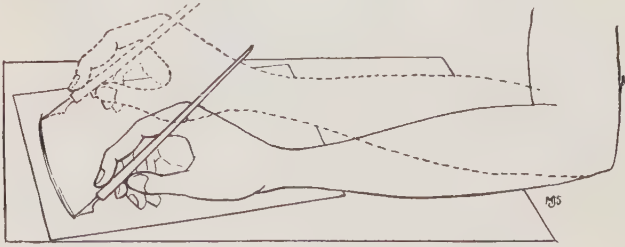
If the hand rests on the paper and only the fingers are used, the rating is "Poor."

To change to "Fair," grasp the pen one inch from the point and raise the hand from the paper.



No. 2. Finger, hand and wrist movement.
FAIR

To change to "Good," hold the pen well, raise the wrist from the paper, and practice the large exercises so that you can write long words such as organization.



No. 3. Including arm movement
GOOD

The writing machine consists of the fingers, hand, wrist, and forearm. How much of the machine is used?

This scale contributed by Harry Houston, supervisor of handwriting, New Haven, Connecticut.

of up lines (up strokes), those letters that had sharp points, were round or curved, etc. A few children tried to write the word and the results were discussed by the group, comparing with the teacher's copy. Then, with the pupils observing, the teacher wrote copies for every child in the group.

As they secured chalk and erasers, the teacher made such comments as, "Nellie's writing will be light because she holds her chalk so lightly." "John's will be large because he is standing away from the board with only his chalk touching it." "Olga will write a clean word, she saw just how to do it."

The group then practiced the word with the teacher's help when needed.

As a child succeeded in writing the words in a large, clean (not going over a letter nor erasing any part), smooth manner, he was to go to the work table and write the word on large newsprint paper (18 x 24) with black crayon.

At the close of the lesson the pupils in the group criticized the work on the large paper and chose the best for use in the book. The standards for judgment were brought out by such questions as: "Can it be easily read?" "Is it as good as the copy?" "What do you like about Mildred's?" "Is it as good as Nellie's?" "Why?" "Who wrote lightly?" "How can you tell?"

After a number of words had been written by the pupils in the best group, in the above manner, the teacher noticed that pupils in the other groups were interested. Soon they were asking to learn to write so they might share in the book.

When the book was finished the teacher was especially pleased because no child in the room had written in it twice. That is, the writing was improving so that many children were doing well enough to have their work accepted, and almost every pupil in the room had participated in the project.

The interest was so keen that even after the doll house was completed the children wanted to go on writing in the book and suggested other words for it.

This interest was utilized by the teacher in suggesting such writing for free periods when the children practiced without the teacher's help.

The teacher feels that the following real accomplishments resulted from this piece of work:

1. The pupils felt a real interest in and a need for writing.
2. At the end of the project, the pupils knew clearly by what standards to judge their writing.
3. Many pupils who could not write on paper before could write well on paper when the project ended.
4. Every child in the room was writing.
5. The children were forming good habits of work.
6. Many children were ready for work on smaller paper.
7. There was a deep interest in the progress of others.
8. Correct oral expression, a very difficult part of work with foreign children, was encouraged by the criticism offered and expected.

Developing the use of bank slips.[1] For some time the pupils in the class had known how to write in correct form the amount of money which they and others brought for deposit on bank day.

During the arithmetic periods they had found the entire amount of money banked by the class; the amount banked by boys and girls, by rows; who banked more, the boys or girls, and the difference, etc.

Finally, Leonard asked "Why can't I write my own bank slip? I know how." Others thought they could do it also.

Upon a trial being made by a group of pupils of good writing ability, it was discovered that the act of writing the names on the slip was harder than it looked. Through questioning, the information was gained that they had too little room on the slip for their names. Width of spaces and length of line generally used for name writing were compared with those on the bank slip. They decided that if older people could write on the slips perhaps they could learn to do it. Their writing would have to be smaller but it must not be squeezed and cramped.

A large sample bank slip was drawn by the teacher upon the blackboard and pupils explained what belonged in the various spaces—account number, name, date and amount for deposit.

The next step was the distribution of bank slips, and without further explanation they went to work at filling out the slips.

When finished, results were discussed by the group. All criticised the crowding of the names on every slip Donald suggested that perhaps two lines could be used for the name.

The teacher showed how a slip would look with the name occupying two lines.

After another trial the appearance was compared with previous efforts and improvement in size and arrangement noted.

When the bank day upon which this group was to write their own slips came, the size of all the names except three, was properly adapted to the space. These three pupils crowded their names so closely that they, as well as the group, were not satisfied to have the bank man see the slip.

Practice upon writing the amount for deposit was not so necessary since this was more familiar to the pupils.

The three pupils who could not write their own slips were given special help during the "before school periods" and were furnished with practice slips, their goal being to be able to fill out their own slips acceptably by the next bank day.

Each pupil had one point in the writing of his own slip which was to be improved before next bank day. Their objective was to write the slip so well that anyone in the bank could read it easily and be glad it was well done.

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[1] Contributed by Eleanor G. Godley, Grade Two, Moses School, Trenton, New Jersey.

E. *Training in Scoring of Handwriting.*

Much emphasis is placed upon the training of pupils to score their own writing in the practice period and written activities outside of the writing class.

F. *Use Made of Good Writers.*

Various activities in which the better writers have rendered service are listed below:

a. Clerks in the building aiding in making out reports such as registration note books, report cards, enrolment slips, individual record cards, gymnasium slips, cards for weighing and measuring, census slips, library lists, etc.
b. Writing invitations for the various school activities.
c. Writing silent reading exercises for the lower grades.
d. Alphabetical lists.
e. History of writing.
f. Booklets on health, social science, illustrated story books, etc.

III. Standards of Attainment

A. Development of the following abilities:

Grade I

1. To name and make in words and sentences all the small letters needed in connection with all activities.
2. To make a few of the most commonly used capitals.
3. To write name correctly and easily.
4. To make figures up to twenty.
5. To make use of a technique of study.
6. To keep study and test paper neat, well arranged, and accurate.
7. To care for all materials in an orderly manner.

Grade II

1. To be able to write independently words which contain most of the letters of the alphabet and difficult combinations such as *br, on, wi, wr.*
2. To make the capitals and figures needed in other activities.
3. To write name, grade, and school correctly and independently.
4. To make use of a technique of study.
5. To write sentences correctly and independently from dictation.
6. To sit in a healthful position while writing.
7. To care for all materials in an orderly manner.

Grades III and IV

1. To sit in a healthful comfortable position. This involves:
    a. Body facing the desk squarely
    b. Head reasonably upright
    c. Both arms on the desk

   d. Hand and wrist fairly upright
   e. Pen held with moderately loose grasp

2. To use a technique of study as follows which involves:
   a. Writing of lesson under consideration once
   b. Comparing with copy to determine whether letter formation, slant, spacing should be emphasized
   c. Remedying difficulty by own efforts and teacher's, if necessary
   d. Practicing to fix new habit
   e. Arranging the unit of work so that spacing is good

3. To understand and make use of the terms *slant, spacing, alignment,* etc.

4. To appraise all written work.

5. To make all the small letters of the alphabet well in many situations.

6. To use all the capital letters with the small letters, showing clearly their respective relationships in height.

7. To write sentences fluently and correctly.

8. To write figures plainly.

9. To write name, school, home address and parents' names independently and correctly.

10. To place words, sentences, and paragraphs upon paper in a pleasing manner.

11. To be able to write 40 letters per minute and quality 45 or better (Ayres scale) at the end of the third grade, and fifty letters per minute and quality 50 or better (Ayres scale) at the end of the fourth grade.

Grades V and VI

1. To sit in a comfortable, well balanced position. This involves the following:
   a. Body facing the desk squarely
   b. Head reasonably upright
   c. Both arms on the desk
   d. Hand and wrist fairly upright
   e. Pen held with moderately loose grasp

2. To use technique of study involving the following:
   a. Writing the unit of work under consideration
   b. Comparing with copy to determine whether letter formation, slant, spacing, etc. should be emphasized
   c. Remedying difficulty by own efforts, or assisted by teacher, if necessary
   d. Practicing to fix new habit
   e. Arranging the unit of work so that spacing is good

3. To understand and make use of terms: *slant, spacing, alignment,* etc.

4. To appraise both writing done in writing class and also that done outside of the writing class. To appraise the writing of other members of the class occasionally.

5. To use all the small and capital letters in many situations showing more clearly their relative heights and regular slant.

6. To use well made figures in neatly and well arranged columns.

7. To place and arrange words, sentences, paragraphs, letters, etc. upon paper in a pleasing manner.

8. To make good writing felt throughout the building.

9. To be able to write 56 letters per minute and quality 55 or better (Ayres scale) at the end of the fifth grade, and 70 letters per minute and quality 60 or better (Ayres scale) at the end of the sixth grade.

IV. Discussion of Curriculum Content and Statement of Trends

Copies selected for practice should be meaningful and should meet the needs for writing in other subjects. They should also provide good training in writing.

There is a general tendency to:

1. Limit the time for the teaching of handwriting to the first six grades.

2. Excuse pupils from practice when standards set up have been obtained and are maintained in all written work.

3. To place emphasis upon individual and group instruction rather than uniform mass instruction.

4. To prepare and arrange content material so as to allow pupils to progress as fast as they are able.

5. To correlate handwriting practice with other activities.

6. To use a combined action of finger, hand, and forearm.

7. To eliminate daily handwriting drill instruction in the intermediate school except for commercial groups and hospital classes for the poorer writers.

8. To follow up the writing in the intermediate or junior high school through the English, social science and exact science classes.

9. To make the daily class practice include material from other subjects in which writing is required, such as spelling, social science, exact science, etc.

10. To a time allotment of seventy-five minutes per week in grades one and two, and one hundred minutes per week in grades three to six inclusive, with an increasing tendency to reduce that time as children are able to write well for their respective grade levels.

11. To stress values and situations which will provide children with opportunities for appraising their own work and directing their own practice.

Conclusion. The important steps to be considered in the building of a course of study are: (1) to present the material in such a manner that teachers will focus their attention upon children as well as results; (2) to recognize the need for individual progress and individual assistance; (3) to provide a general method of procedure for the child to attain his goal; (4) to provide objective goals; (5) to measure the effect of teaching; (6) to develop desirable attitudes, habits and purposes as well as to learn to write.

CHAPTER VI

SPELLING

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Ernest Horn, College of Education, State University of Iowa, Iowa City, Iowa.
Clifford Woody, Director, Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Michigan.

THE FOLLOWING is a continuation of the report on spelling presented in the *Third Yearbook* of the Department of Superintendence in 1925. The reader will recall that the report last year was confined, for the most part, to a summary of thirty-three studies on the essential spelling vocabularies. This year, the aim of the committee has been: (1) to summarize the experimental work in spelling that is being done in the classrooms of the country, and (2) to present a minimum vocabulary.

The report is divided into these four sections:

I. Outstanding aims in the teaching of spelling.
II. Digest of experimental work in the teaching of spelling.
III. Minimum list of the 3000 most frequently used words in written correspondence, with suggestions as to its use and limitations.
IV. Brief list of research problems which need further investigation.

Section I. Aims in Teaching Spelling

It is the judgment of the committee that the teaching of spelling should aim:

1. *To make automatic the accepted sequence of letters in words most commonly needed for expression of thought in writing.*

2. *To develop the meaning and use of words to be spelled.* The development of the meaning and use of words may involve the meaning and uses given in the dictionary, but it is preferable to clarify and to build up the meaning and uses upon the basis of the child's own experience.

3. *To develop what is termed a "spelling consciousness,"* i. e., the ability to recognize almost instantly the correct and incorrect spelling of words.

4. *To develop a "spelling conscience."* This "spelling conscience" may be referred to as an ardent purpose or desire to spell correctly, or, as an ideal of correct spelling. This conscience is annoyed by incorrect spelling and is satisfied only with correct spelling. This aim is more extensively described in Study No. 6 on page 132.

5. *To develop a technique for the study of spelling.* This technique involves the application of an effective method of learning how to attack and master the sequence of letters in the given word, the method of

diagnosing sources of errors in the spelling of specific words, the knowledge of how to use the dictionary in finding the pronunciation, meaning, and correct spelling of unfamiliar words, the knowledge of what to do when in doubt concerning the spelling of a word, and the application of a few inductive rules governing the correct spelling of words.

Section II. Digest of Experimental Work in the Teaching of Spelling

In preparing this section a letter was sent to all school systems, enrolled in the Cooperative Plan of Curriculum Revision of the Department of Superintendence, which had expressed an interest in Spelling. Each school system was asked to report briefly on any outstanding, unusual, or interesting experiment, carried on by its local teachers in the field of spelling. The following fifteen studies were reported in time to be incorporated in this report.[1]

STUDY NO. 1. Reed, O. L. *Youngstown Spelling Scale.* Report presented to the Spelling Committee of the 1926 Yearbook.

Problem. To show the difficulties of the first 3000 words in the Thorndike list.

Method. In making the scale, the method used by Ayres in the Ayres Scale was followed. The work was done under the direction of Dr. Henrietta V. Race, director of research in the Youngstown Public Schools.

Findings. The study was decidedly worthwhile and is an excellent scale for showing the difficulties of the first 3000 words in the Thorndike list. The possible error in the scale comes in assuming that the 3000 words used in the Thorndike list are the first 3000 words that children will need to know how to spell. The Thorndike list is based on reading vocabularies rather than on spelling vocabularies. However, it is true that words are written in order to be read and everything that is read has had to be written. The scale is, therefore, correct to the extent that the reading vocabulary overlaps the writing vocabulary. Undoubtedly, practically all of the first 3000 words in the Thorndike list should, with rare exception, be taught in the spelling lessons of the public schools of the United States in grades one to eight. (For confirmation of this statement see Section III of this report.)

STUDY NO. 2. Simmons, Ernest P. *A Standard Spelling Scale and Drill.* Published by R. E. Starr, Elliott, Iowa.

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[1] Among the contributors were Frederick S. Breed, School of Education, University of Chicago, Chicago, Illinois; M. C. Del Manzo, superintendent of schools, Lawrence, Kansas; Ida Fitzsimmons, Ogden Public Schools, Ogden, Utah; W. C. French, superintendent of schools, Drumright, Oklahoma; Arthur L. Gould, assistant superintendent of schools, Boston, Massachusetts; J. R. Holmes, superintendent of schools, Sapulpa, Oklahoma; Ernest Horn, University of Iowa, Iowa City, Iowa; E. E. Keener, Division of Instructional Research, Chicago, Illinois; Paul McKee, elementary supervisor, Hibbing, Minnesota; O. L. Reed, superintendent of schools, Youngstown, Ohio; Ernest P. Simmons, superintendent of schools, Elliott, Iowa; and Clifford Woody, School of Education, University of Michigan, Ann Arbor, Michigan.

Problem. To prepare a high school spelling scale.

Method. This scale was compiled from the 5000 commonest words giving difficulty at the beginning and the end of the high school period. It is built on the Iowa Spelling Scale idea.

Findings. The scale furnishes a minimum working list of words for grades nine to twelve inclusive.

STUDY NO. 3. Keener, E. E. *Individual Method Versus Group Method of Teaching Spelling.* Report presented to the Spelling Committee of the 1926 Yearbook.

Problem. Chicago's course of study contains about 3000 words that pupils are expected to learn to spell before they complete the eighth grade. How does the individual method of teaching these words compare with the group method?

Findings. The results of the study are, for the most part, decidedly inconclusive, as shown by the following summary:

1. When all grades are combined, individual instruction is slightly superior to group instruction. This is true even though teachers are more skilled in using the group method.

2. The present experiment seems to indicate that the group method secures better results than the individual method in grades two and three. This may be due to the fact that pupils in the lower grades do not know how to study independently and during this short experiment did not have opportunity to acquire a good technique of study.

3. When the pupils are grouped on the basis of their initial spelling ability the individual method secures better results in all groups except those scoring below 30. The pupils making these low scores were in the second grade. The fact that so large a number of pupils scored 80 or 90 indicated that group study would involve a large waste of time. If a pupil can spell 80 words out of a given list of 100 words it seems folly to have him spend time on the entire 100.

4. When comparison is made using only classes where one teacher taught the two methods, the individual method still seems slightly superior.

5. The testimony of the majority of teachers at the end of the experiment was very markedly in favor of the individual method. Even though many of them had not had previous experience with it they favored it because of the greater interest on the part of the pupils, economy of pupils' time, and opportunity of giving help where it was needed.

6. On the average about twelve percent of the pupils were excused from the study of spelling because their initial score on the week's work was perfect. They were thus enabled to spend their time on something which would be of more value to them.

7. On the basis of a slightly greater improvement and the great economy of the pupils' time under the individual method, it seems to be advisable to make use of individual instruction, particularly in grades four to eight.

8. Further experimentation should be conducted to determine the best procedure to follow in each of the school grades. Perhaps a combination

of the group and individual methods could be used to advantage in the lower grades. Under individual instruction, it is possible that a short period of preliminary study before the initial test would be valuable. At least there is need for devising some effective scheme for helping pupils to acquire a proper technique of study.

STUDY NO. 4. Woody, Clifford. *The Permanent Effects of the Teaching of Spelling.* Bulletin No. 71. Bureau of Educational Reference and Research, School of Education, University of Michigan, November 15, 1924.

Problem. (1) To discover the percentage of words which could be spelled correctly at the end of a month during which there was no review of the words; (2) to discover the percentage of words which could be spelled after the summer vacation; and (3) comparison of the amount of retention on lists of different difficulty.

Method. Four different word lists of varying difficulty each containing 20 words were selected from the Horn-Ashbaugh Spelling Scale. One hundred eighty-six teachers in 15 different cities in Michigan, Washington, D. C., and Oklahoma City, tested children in Grades IV, V, VI on the total list of 80 words before teaching any of the words. After this preliminary testing each teacher taught the 80 words until she thought the children had mastered them, then a second test was given. After this second testing the 80 words were utterly disregarded for a month, at the end of which time a third test on these same words was given. This test came approximately at the end of the school year. Following the summer vacation the children were again tested on the original 80 words.

Findings. There was little relationship between the difficulty of the words and the degree of permanency manifested.

There was a definite tendency for certain errors to persist regardless of the influence of teaching. From 2 to 6 percent of the words misspelled showed identical mistakes and from 6 to 14 percent of the words, almost identical mistakes. While the percentages of persistent errors were much smaller than the percentages indicating the permanent effects of the teaching, they were sufficiently large to suggest that the practice of testing-before-study method of teaching spelling needs scientific justification. At any rate these percentages of persistent errors suggest that it may be bad practice to ask a child to spell a word which he knows he cannot spell. Would it not be better in the testing-before-study method first to have the child indicate the words which he knows or thinks he knows and test on these and not test on the other words until after a study?

STUDY NO. 5. Woody, Clifford. *An Investigation for the Evaluation of Two Methods of the Teaching of Spelling.* A study now being conducted by the Bureau of Educational Reference and Research, University of Michigan.

Problem. (1) To determine which of two methods of teaching spelling would result in greater immediate and permanent mastery of the teaching of given lists of words; and (2) To study the influence of the two methods on the types and persistency of the errors made.

Method. This investigation is based upon results obtained from teaching different lists of 100 selected words from the Iowa Spelling Scales in Grades V, VI, VII, and VIII of the Adrian Public Schools. The method of control and experimental groups was utilized.

The control and experimental groups—At the beginning of the investigation there was a definite attempt to form two groups of pupils of equal ability in each of the enumerated grades, but the final equating of the groups was done after the close of the investigation. The preliminary selection of the control and experimental groups was based upon the scores made on the Otis Self-Administering Test of Mental Ability, the scores attained on the preliminary testing of the appropriate list of words, on the superintendent's opinion of the relative equality of the teachers of the different classes, and on the relative equality of the social environment of the pupils in the different schools participating. These latter factors were considered in order that similar opportunities for learning as well as similar mental and spelling achievements might prevail. In the final determination, the pupils in the control group were matched with those in the experimental group on the following factors: Score on the mental test, age, sex, and the initial score on the 100 words. While it was impossible to obtain a perfect match on all of these factors, there was less than 10 percent of difference on any one of them. This method of determining the groups, eliminated the influence of difference in mental ability, age, sex, and initial ability on the spelling lists and made difference in the methods of teaching the one outstanding variable.

The two methods of teaching—Method I, utilized in the control group, approximated very closely the methods of teaching spelling regularly employed in the school system; Method II, utilized in the experimental group, was a variation and elaboration of the test and study method. In each method 20 new words were taught per week, during the 20-minute period devoted to the teaching of spelling. Under Method I, five new words were taught per day and after the first day the words of the previous day constituted a regular portion of the day's assignment. On the fifth day of the week there was a general review of all of the 20 words. A few outstanding characteristics of the teaching under Method I were the pronunciation of the words as written on the board, the development of the meaning of the word, division of the word into syllables, indication of the difficult parts, directing the children to look at the word, close their eyes and spell the word silently, directing the children to write the word and compare the written word with the word on the board, etc. During the last portion of each day, the teacher gave a written test on the words assigned for the day. With this method there was no review of the words after the completion of the work outlined for the particular week until the final testing at the end of the fifth week covered by the first part of the investigation.

Under Method II, after having written on the board the 20 words assigned for the week, the teacher gave the children practice in pronouncing the words and developed their meaning. She then tested the children on the whole list of 20 words. The list of words mispelled in this test constituted the individual assignment for each child. During the next day all the time was utilized in studying the particular words previously misspelled. During this study period, the teacher directed each child to pronounce each word silently and to spell it. He asked the child to look at a word carefully, cover it, write it, and spell silently as he wrote. He asked each child to repeat this performance at least three times and as many more times as were needed to master the word. The second day was devoted entirely to study, but the third day was devoted to testing on the 20 words, to the testing of the mispelled words, and to study if any time was available. The fourth day was devoted to study, if need be, as on the second day, and the fifth day to testing as on the first and third days. On the third and fifth days of the next week the words of the previous week were included in the list of test words as well as the 20 new words for the week. Thus, the children were tested on all lists of words, save those for the fifth week, five different times. If the pupil spelled all of the words correctly on any of the different tests, he was excused from the study of spelling on the succeeding day, but no pupil was excused from the taking of any of the tests. With this method there was no review of the words, following the work outlined for the period of two weeks until the final testing at the end of the five weeks covered by the first part of the investigation.

The evaluation of the two methods—In connection with this investigation, five different tests on each list of 100 words were given. Test I was given at the beginning of the investigation in order to determine how many of the words the children could spell before any teaching was done. Test II was given at the end of the five weeks of the teaching period to determine which of the two methods gave greater immediate results. Test III was given four weeks after Test II; and Test IV, eight weeks afterwards in order to determine which of the two methods gave greater permanent results. Test V, given during the first week of school after the summer vacation, was an additional check on the permanency of the results attained. It should be added that the teachers were cautioned not to emphasize the spelling of any words of the given lists after the cessation of the teaching period in order that a reliable measure of the permanency of the results could be obtained.

In order to study the influence of these two methods on the types and persistency of the errors made, definite tabulations of the misspellings in both the control and experimental groups are being made. Data are being collected on the percentage of pupils who continue misspelling the word in the identical fashion misspelled on the initial tests, on the total number of different misspellings by the experimental and control groups, and on the most common misspellings of the given words. In this study of errors there is a definite attempt to evaluate the assertion that in spelling the first impression should be the correct one. The data from this investigation lend themselves very well to this phase of the problem because the responses made by all pupils for each time they were asked to spell during the teaching period as well as on the five tests enumerated, are available.

Findings. As the tabulation of the data from this investigation is not yet completed, no statement of results is given here. The results will be made available at some later date either through the educational journals or through a special bulletin of the Bureau of Educational Reference and Research, University of Michigan.

STUDY NO. 6. Ellis, Manley M. *A Purposing Test in Spelling.* Now in process of preparation under the direction of S. A. Courtis, School of Education, University of Michigan.

Problem. To construct a test of purposing in the field of spelling.

Discussion. There are at the present time in American education two clearly marked philosophies and two corresponding methods of teaching. These philosophies may be called the Older Philosophy and the Newer Philosophy, and the corresponding methods may be designated the Traditional Method and the Project Method. The Older Philosophy is characterized by: (1) teacher domination and initiative; (2) the knowledge aim; (3) subject organization; (4) the learning of subject-matter under compulsion; and (5) the catechetical method of conducting the recitation. The contrasting method is characterized by a high degree of pupil activity to purposed ends. These units of purposeful activity or projects, as they are called, constitute the curriculum. Such knowledges and skills as are acquired are the by-products of pupil activity. There is not subject organization, however, and little formally organized subject-matter, except such as is needed in the prosecution of projects. The philosophy back of this method is that since education *is* life, and not merely a preparation for life children should be taught to purpose in projects so organized as to insure present and continued growth in personality and self-expression. The Project Method, then includes: (1) A curriculum consisting of projects; (2) a high degree of pupil activity; (3) definite pupil purposing; and (4) very little formally organized subject-matter.

There have been many claims made as to the superiority of each of the methods described above. These claims have, however, been based merely upon the subjective judgments of the claimants. There is as yet no objective evidence of the superiority of either method. It may be that since each method strives for a different goal, that each may be superior for a given type of product. In this case, the best method might be made up of elements from both. A general educational problem of much importance is to determine experimentally and objectively which method results in the greatest growth in the character of the products produced by both.

A review of the existing literature and practice reveals that there are existent excellent tests and methods of testing for the products of the older education, namely, knowledges and skills. The same is not true of the products of the newer education, mainly ability of the child to purpose. No test has yet been devised to measure these products. The specific aim of this research is to construct and standardize such a test of purposing in the field of spelling, this test to measure the extent to which the goals of the newer education are achieved in this field as compared to the extent to which those of the older education are achieved. Some of these goals in the case of spelling might be:

(1) The value placed upon spelling skill by the individual.

(2) The extent to which the individual is conscious of defects in his spelling ability.

(3) The extent to which the individual keeps track of words upon which his spelling knowledge is hazy, later looking up and memorizing such words.

(4) The extent to which the individual tries to learn to spell new words in matter which he reads.

(5) The individual's attitude toward criticism of his spelling, and what he does as a result of this criticism.

(6) The conscious use of rules and other devices by the individual to improve his spelling.

These goals are not meant to be, in any sense, exhaustive. They are merely suggestive of the type of investigation which is being undertaken in this research.

STUDY NO. 7. Breed, Frederick S. *The Words that Children Should Learn to Spell.* A summary of the results of an investigation that will be reported in full in the *Elementary School Journal.*

Problem. To discover what words children should learn to spell.

Method. Comparison of childhood theme vocabularies with adult-correspondence vocabularies.

Discussion and Findings. In their independent attempts to determine what words children should be taught to spell, investigators provide vocabularies that show an average agreement, one with another, of about 50 percent. Although this percentage may seem small for a field in which material is as definite, and to all appearances, as determinable, as in spelling, nevertheless it represents a large advance over the vocabulary determinations of the pre-scientific period, and is probably not surpassed in the curriculum making for any other subject.

The disparity among the findings of investigators is due in considerable measure to variability in methods of investigation. Variations in (1) kind of material, and (2) amount of material, and (3) tabulation of material have clearly contributed to it. When the technique of vocabulary studies shall have been better standardized, greater agreement in the results may be expected. In a very true sense, however, educators must recognize that there are general or common word needs in written discourse and that these needs are being revealed by painstaking and persevering research.

Investigators have used various principles in the selection of words for their vocabularies. This difference in principles depends mainly on a difference in source material, and has resulted in vocabularies of several types. There are (1) vocabularies based on various kinds of written discourse of adults, including printed material and (2) vocabularies based on the written discourse of children. Included under the first are (3) vocabularies based on the correspondence of adults, and under the second (4) vocabularies based on the misspelled words of children. Lastly, there should be added (5) vocabularies based on both the written work of children and the correspondence of adults.

Type one is unsatisfactory because of its inclusion of much material that is not justified on the basis of social need.

Types two and three are the most prominent contenders for recognition and offer the most promising material for the solution of the spelling-vocabularly problem. One represents the common needs of children in their everyday writing; the other, the similar needs of adults. These two types differ in their content to the extent of 40 to 50 percent. This difference is due in part to imperfect methods of investigation on both sides. The adult-correspondence investigations differ from each other by about the same amount as the childhood-theme vocabularies differ from each other.

The misspelling vocabularies, type four, have suffered from faulty technique of construction. Even if this were not the case, they would quite clearly not form the most satisfactory basis for determining spelling needs, for three reasons: (1) a reliable childhood-use vocabulary includes the misspelling vocabulary, (2) the easier words included by the former and not by the latter need some attention, (3) the misspelling vocabulary tends to include words that lack the support of frequent usage.

In the present state of knowledge, type five, seems to promise the best results.

By comparing a composite of five childhood-theme vocabularies with a composite of eleven adult-correspondence vocabularies, it was found that the disparity was 40 percent. This disparity can be attributed in part to a degree of unreliability in both composites. On the basis of evidence provided in this investigation, it can be attributed in part also to actual difference between the word usage of children and that of adults. This evidence was obtained from the analysis of three groups of words resulting from the comparison:

1. Words used by children only	2437
2. Words used by adults only	4459
3. Words common to the two composite lists	4598

The words of the first group, fell naturally into twelve categories: School, stories, home, conduct, animals, play, food, farm, plants, health, clothing, and miscellaneous. A very different set of categories was represented in the adult-only list. Here the words formed two distinct groups: (1) Words of general application and (2) words of special application. This second group was composed of words that were classifiable under the following categories: business and professional, social and political, domestic and recreational, and religious.

The words used only by children reflected certain characteristic interests of children. The words of special application used by adults reflected similarly characteristic interests of adults. The words of general application in the adult-only list represented a power of abstraction and generalization beyond the mental level of the elementary-school child. In a word, the fundamental difference between these two lists of words was the difference in psychological maturity which they reflected.

The difference in usage between children and adults was clear even in the list of words common to the two vocabularies. The correlation in frequency of usage was so imperfect that one could make no safe inference regarding the word needs of children from the frequency of adult use.

In the practical work of selecting a list of spelling words for school purposes, the usage of both children and adults was given consideration, in the belief that a vocabulary which emphasizes the common and frequent demands of both will more closely approach the essentials than a vocabulary which emphasizes the demands of either one alone. This group of common words constitutes the major portion of the vocabulary. In addition, a limited number of words of unusually high frequency in the usage of children only, and a similar number of unusually high frequency in the usage of adults only were included. Exact figures on these three groups of words are as follows:

1. Words used by both children and adults	3032
2. Words used by children only	210
3. Words used by adults only	239
Total	3481

The total was determined prior to the selection of words by the results of a previous investigation which shows that 3,500 different words account for 98.30 percent of the running words in the correspondence of adults.

STUDY NO. 8. Breed, Frederick S. *Hints for Supervisors of Spelling Instruction.*

Problem. To analyze the methods of instruction employed in spelling in a city where a survey showed that the schools ranked somewhat above the average.

Method. Twenty-five complete spelling recitations were randomly selected for observation from the various schools and grades, and a detailed record was made of the teacher and the pupil activities during these recitations.

Discussion and Observations. One cannot fully judge the efficiency of a school on the basis of results from standardized tests alone. This became evident in the course of a survey of the spelling instruction in a middle-western city during the past year. On the basis of test results, the schools of this city were found to rank somewhat above the average for public schools in the country. The showing was indeed creditable. Following the administration of the tests, an analysis was made of the methods of instruction employed in spelling.

These were some of the questions raised. To what extent were the procedures of the teachers valid, as judged in the light of scientific investigations and expert opinion? To what extent were these procedures invalid, in spite of the good showing on the tests? Was there a possibility of achievement considerably beyond that indicated in the test results?

On account of the demand for brevity in this report, attention will be confined to classroom activities that were either unjustifiable or questionable. The reader is reminded, therefore, that only one side of the picture is presented, and that, in spite of the faults that are mentioned below, the teaching of spelling in these schools was, on the whole, scientific to a creditable degree.

Most of the wrong procedures that were found were clearly attributable to faulty supervision. They are in the main remediable and wait only for a touch of skilful supervisory direction. The chief explanation for their persistence in classrooms is supervisional oversight. For some reason the supervisory service of these schools, which means primarily the staff of principals, is not functioning as effectively as it should.

Following is a list of the observed activities of teachers that are either unjustifiable or questionable:

1. Devoting a regular period of 15 minutes to spelling and, in addition, a study period of the same length.
2. Marking pre-test papers during school hours while the pupils of the room idly await their turn.
3. Drilling pupils individually and privately on words misspelled in the pre-test, while the rest of the class idly await their turn.
4. Having the pupils spend whole periods after the pre-test, in study according to their own devices, while the teacher confines her activity to disciplinary rather than study supervision.
5. Teaching from a list of words or a group of sentences, placed on the board before the recitation starts, rather than from words vividly written in the presence of the pupils.
6. Neglecting to focalize the attention of the pupils on points of special difficulty in words.
7. Neglecting to syllabify long and difficult words.
8. Substituting other modes of practice for the most important kind, namely, practice in writing the words.
9. Employing a considerable portion of the spelling period for general memory drill instead of using it for specific spelling drill. A case in point is that of the teacher who assigned the words of the lesson as names to as many pupils, called these word-named pupils to the front of the room, and then required members of the class to recall not only the spelling of the words, but, prior to that, the very words themselves from their unnatural associates.

10. Permitting the written work in spelling to be done on as many kinds of paper and tablets, almost, as the number of pupils in the room.

11. Permitting the use of a random mixture of pens and pencils in the same room.

12. Utilizing two periods and two classes for the teaching of spelling by the group method, in a room containing thirty to thirty-five pupils, when as good results can be obtained by teaching all the pupils in the room in one class during one period.

These observations lead one to the conviction that much could be done to improve the spelling achievement of these schools, regardless of their record in the tests, and that the first step in this direction would be improvement in the supervisory service.

This brief report is offered for its possible suggestive value to supervisors of spelling instruction.

STUDY NO. 9. McKee, Paul. *Teaching and Testing Spelling by Column and Context Forms.* Included in Doctor's Thesis. College of Education, State University of Iowa, Iowa City, Iowa. 1924.

Problem. To determine the relative efficiency of the common column form and certain types of context forms in the teaching of spelling.

Source of Data. Approximately 500 seventh grade pupils attending public schools in Iowa and Minnesota furnished the data.

Method. The investigation included three experiments. The column-phrase experiment, the column-sentence experiment, and the column-paragraph experiment. Each experiment covered the teaching of eight lessons. The pupils were arranged in two groups of equal spelling ability. In the first four lessons of the column-phrase experiment, Group A studied the words in column form and was tested during the teaching process by column form tests, while Group B studied the words embodied in phrases and were tested by phrase form tests. During the teaching of the last four lessons the groups were shifted. The same procedure was used in the column-sentence experiment in which the words were presented in column form and in sentence form. In like manner in the column-paragraph experiment, one group studied the words in column-form and was tested by column form, while the other group studied the words which were embodied in a paragraph form and was tested by paragraph form.

Nine weeks after the formal teaching process had been completed for a particular lesson, delayed recall tests were given. These tests consisted of both a column form and a new context form. Both tests in the case of each lesson were given to both groups.

Findings. Efficiency was defined as: (1) Improvement in spelling ability acquired during the formal teaching process, (2) ability to spell when a certain period of time has elapsed after the formal teaching process has been completed, and (3) ability to transfer words studied into new context form.

The results relative to improvement in studying the weekly lessons show, in the column-phrase experiment, that the group which studied and was tested by column form secured more relative improvement than the group which studied and was tested by phrase form. This same fact was also found to be true in the comparison of relative improvement in the column-paragraph experiment. In the column-sentence experiment the column group proved to be only slightly superior to the sentence group.

The measurement of ability to spell words, studied nine weeks after the formal teaching process had been completed, shows, in the column-phrase experiment, that the group which studied and was tested by column form possessed ability which was significantaly superior to that of the phrase group. In the column-sentence experiment and the column-paragraph experiment, similar results were obtained. In both experiments the column groups showed an ability which was significantly superior to that of the corresponding context groups.

So far as it was possible to determine, both groups in all experiments showed approximately equal ability to retain spelling ability acquired during the formal teaching process. It must be remembered, however, that even though such is the case, the column group was able to spell accurately a significantly greater number of words at the time the delayed recall tests were given.

The measurement of ability to transfer words previously studied into new context form shows, in the column phrase experiment, that the group which used the column form during the teaching process possessed greater ability to transfer previously studied words than the group which used the phrase form during the teaching process. In the column-sentence experiment, the groups possessed approximately equal ability to transfer words studied into new sentences. In the column-paragraph experiment the group which studied by column form shows distinct superiority over the group which studied the same words in paragraph form in transferring the words into new paragraphs. In the majority of lessons the group which studied by context form shows less loss in transfer from the column test of the nine week measurement to the context test.of the same measurement than does the column group. This is due, however, not to the fact that the context group spelled more words correctly than the column group in the context test, but rather to the fact that the context group spelled less words accurately in the column test than did the column group.

Comment. It is evident from the results stated above that context exercises, as used in this investigation, do not constitute an efficient tool for increasing spelling efficiency in context form. When the amount of time required for the construction of such exercises is taken into consideration with the inferior results obtained by their use it is clear that context exercises as used herein are neither feasible nor efficient. It seems better to attack each word as an individual problem. There is, probably, a use for context exercises in serving as a final test of ability gained during the teaching process, but if such use of them is to be made it is suggested that the paragraph form constitute the final test inasmuch as the phrase or sentence form may not sufficiently cloak the words to be checked. There is a need of a series of carefully controlled experiments to be performed for the purpose of determining efficient classroom procedure which will increase spelling efficiency in context form.

STUDY NO. 10. McKee, Paul. *Spelling Difficulty in Context Form.* Included in Master's Thesis. College of Education, State University of Iowa, Iowa City, Iowa. 1921.

Problem. To determine the relationship between the ability of pupils to spell certain words in column form and the ability to spell the same words in paragraph form.

Source of Data. The spellings of four hundred one seventh grade pupils attending public schools in Iowa.

Method. Ten seventh grade words of varying difficulty were chosen from the Buckingham Extension of the Ayres Spelling Scale. These ten words were used in the construction of two spelling tests, a column form test and a paragraph form test. The paragraph form consisted of a business letter in which the ten words were embodied. The paragraph test was dictated to the 401 seventh grade pupils and was immediately followed by the column form test.

Findings. The percentage of accuracy secured on the column test was compared with the percentage of accuracy secured on the paragraph test. The loss in transfer was also computed. It was evident from these results that the pupils were able to spell with greater accuracy in column form than in paragraph form.

Examination of the detailed results show the following facts: (1) "Loss in transfer" did not occur in the case of every word; (2) there was a greater "loss in transfer" for the more difficult words as determined by the Ayres Scale; (3) some pupils spelled with greater accuracy in paragraph form than in column form; (4) many pupils exhibited no "loss in transfer" whatever; (5) many pupils used a different form of misspelling in context form than in column form.

Comment. The existence of a "loss in transfer" from column to context spelling has called forth considerable comment and research. At the present time it seems to be fairly well established that a significant loss does exist. Practically all investigations dealing with this problem have used a dictated context form. There is a need for investigation which would seek to determine the efficiency with which pupils spell previously studied words when writing letters and themes.

STUDY NO. 11. McKee, Paul. *Common Forms of Misspelling.* Included in Master's Thesis. College of Education, State University of Iowa, Iowa City, Iowa.

Problem. To discover whether or not there are common forms of misspelling certain words.

Source of Data. (1) The spellings of 1000 pupils attending sixth, seventh, eighth, and ninth grades of public schools in Iowa, (2) The spellings of 400 seventh grade pupils.

Method. (1) Twenty-five words were chosen from that column of the Ayres Spelling Scale which presents a seventh grade norm of 73 percent. These words were embodied in a business letter which was dictated to one thousand, sixth, seventh, eighth, and ninth grade pupils. (2) Ten words of varying difficulty were chosen from the Ayres Spelling Scale. A column test and a paragraph test which embodied the ten words were given to four hundred one, seventh grade pupils.

Findings. The different forms of misspelling were recorded for fifty-four different words. Examination of the detailed data shows among others the following facts: First, only in very few instances does the frequency of the most common form of misspelling equal 25 percent of the total number of misspellings of a given word. For example, "preliminary" was attempted 802 times, the total misspellings numbered 532, the number of different forms of misspelling was 228, and the frequency of the most common form of misspelling was 59. In this case the frequency of the most common form of misspelling is a little more than 10 percent of the total misspelling. Second, more different forms of misspelling occurred for the more difficult words as judged by the Ayres Scale than for the simpler words. For example, "beneficial," chosen from that column of the scale which shows a seventh grade norm of 50 percent, was attempted 802 times, was misspelled 609 times, and the number of different forms of misspelling was 226. "Company," chosen from that column of the scale which shows a seventh grade norm of 96 percent was attempted 802 times, was misspelled 34 times, and the number of different forms of misspelling was 12. Third, more "unreasonable" forms occurred in context spelling than in column spelling.

Comment. The results of this study throw some doubt upon the proposition that there are common forms of misspelling words. The classroom teacher who insists upon teaching the spelling of a given word by calling particular attention to supposed forms of misspelling that word is probably wasting time and energy.

Only when a survey of the spelling ability of a group of pupils shows that particular group to be making common use of a single form of misspelling is one justified in calling the attention of the group to that particular form of misspelling.

STUDY NO. 12. Fitzsimmons, Ida. *What Words are Most Commonly Misspelled in Grade III?* Report presented to Spelling Committee of 1926 Yearbook.

Problem. To determine the words most commonly misspelled in the third grade of the Ogden Public Schools.

Method. Tallying frequency of misspelled words in Grade III.

Findings. The following were the words missed the largest number of times:

about
half
than
buy
very
when
could
charge
maybe
doesn't
no
want
enough
friend
four
sure
self
home
too
any
know
been
cent
cost
many
why
night
would
each
pair
prize
sale
get
heard
two
ask
if
because
before
month
might
write
does
what
else
once
where
sell
young
said
hurry
are
house
they
knew
last
whole
wrote
choose
then
died
only
who
piece
you
for
hear
them

STUDY NO. 13. Woody, Clifford. *The Amount of Time Devoted to the Teaching of Spelling in the Public Schools of Michigan in 1925.* Unpublished study, Bureau of Educational Reference and Research, University of Michigan.

Problem. To determine the number of minutes per week devoted to the teaching of spelling in groups of cities of various sizes and in the rural schools of Michigan.

Method. The study is based upon questionnaires returned by schools in 95 cities and two counties in the state of Michigan. In the larger cities the questionnaires were filled out by the principals of the elementary schools; in the smaller cities, by the superintendents; in the schools of the two counties, by the rural teachers themselves. The study is subject to the usual criticisms of questionnaire study, although every effort was made to ascertain facts portraying the true situation. The daily programs, which often accompanied the returned questionnaires, were utilized for checking the data provided and for ascertaining data not provided. However, data for some grades in some of the schools were not provided and could not be obtained. This fact partially accounts for the variation in the number of schools reported under the various items.

In order to determine the relative amount of time devoted to the teaching of spelling in the rural schools and in groups of cities of various sizes, the data from the rural schools were tabulated as a group and the data for the city schools were divided into five groups: Group I, the data from those cities having less than 1,000 inhabitants; Group II, from the cities having 1,000 but less than 2,000 inhabitants; Group III, from the cities having 2,000 but less than 5,000 inhabitants; Group IV, from the cities having 5,000 but less than 15,000 inhabitants; Group V, from the cities having 15,000 or more inhabitants. In the tabulations determining the percentage of the total school time devoted to the teaching of spelling, there was a definite attempt to make the data comparable by figuring the percentage of time on the number of minutes in the morning and afternoon sessions and disregarding the number of minutes in the noon recess period which was of various lengths. Furthermore, consideration was given to the difference in the length of the school day in the various schools.

Findings. Table 4, exhibiting the facts concerning the amount of time regularly scheduled in the morning and afternoon sessions for the study of spelling, reveals the following points:

1. In most of the grades the number of schools reporting was sufficient to give a reliable index of the amount of time devoted. The failure of some teachers in the different grades to provide the facts might have been due to three causes: (a) not teaching spelling in the grades concerned, (b) not having pupils in the grades concerned, (c) or simply failing to provide the data. In Grade I a number of schools indicated that they did not introduce spelling until the second year. Even though there was variation in the number of reports received from the different schools, it seems that the

TABLE 4.—AVERAGE NUMBER OF MINUTES PER WEEK AND THE PERCENTAGE OF THE TOTAL SCHOOL TIME SCHEDULED FOR THE RECITATION AND THE STUDY OF SPELLING

Type of School	Total Number of Schools	Grade					
		I	II	III	IV	V	VI
		Average number of minutes per week					
Rural Schools	247	85	113	129	150	153	146
Group I	47	47	106	153	139	136	141
Group II	19	43	111	141	139	126	118
Group III	12	55	112	134	124	130	118
Group IV	11	50	97	111	104	112	90
Group V	7	48	98	117	103	103	103
		Percentage of total school time per week					
Rural Schools		5	6	7	8	9	8
Group I		3	7	9	8	8	8
Group II		3	7	9	9	8	7
Group III		4	7	9	8	8	7
Group IV		4	7	7	7	7	6
Group V		3	7	7	6	6	6

proportion of schools reporting in each group was sufficiently large to warrant taking the results portrayed as representative of those existing in the respective groups.

2. There was some variation in the number of minutes per week devoted to the teaching of spelling. The rural schools devoted a larger number of minutes per week to the teaching of spelling than the schools of any other group in Grades I, IV, V and VI. The schools in Groups I, II, and III devoted considerably more time to the teaching of spelling than the schools in Groups IV and V.

3. There was little variation in the percentages of the total school time per week devoted to the teaching of spelling. In the rural schools, the percentage of time devoted to the teaching of spelling was approximately 7 percent; in Group I, approximately 7 percent; in Group II, approximately 8 percent; in Group III, approximately 7 percent; in Group IV, approximately 6½ percent; and in Group V, approximately 6 percent. The inequalities in the average number of minutes per week were somewhat ironed out by the differences in the length of the school days in the large and smaller cities, and by the fact that the percentages were figured upon a rather large base involving the total time devoted to the teaching of spelling during the week.

Table 5, presents a comparison of the relative amounts of time devoted to the teaching of spelling and to other subjects in the rural and city schools of Michigan and of similar data provided in other studies. In this table the columns of figures under the heading "minutes" were obtained by adding the number of minutes devoted to the teaching of the different subjects in Grades I to VI. While the data from the different

TABLE 5.—RELATIVE AMOUNTS OF TIME DEVOTED TO THE TEACHING OF SPELLING AND OTHER SUBJECTS IN THE RURAL AND CITY SCHOOLS FOR 1925 COMPARED WITH DATA FROM OTHER INVESTIGATIONS

Subjects	1925 (Woody)				1924 (Ayer)		1914 (Holmes)		1904 (Payne)	
	Rural		City							
	Minutes	Rank	Minutes	Rank	Minutes	Rank	Minutes	Rank	Minutes	Rank
Reading	1283	1	1766	1	1725	1	1680	1	1979	1
Arithmetic	1133	2	1119	2	1028	2	1103	2	1317	2
Language	919	3	926	3	995	3	902	3	978	3
Recess	805	4	672	4	594	5	582	4	550	5
Geography	632	6	665	5	539	7	518	7	554	4
Spelling	776	5	642	6	453	9	561	5	420	8
Penmanship	452	8	483	7	446	10	470	8	452	7
Physical Training	136	11	472	8	640	4	325	10	279	11
Science	474	7	415	9	259	13	287	12	301	10
Drawing	86	12	382	10	505	8	540	6	508	6
Opening Exercises	334	9	368	11	583	6	284	13	249	12
Music	50	14	367	12	446	11	419	9	408	9
History	293	10	250	13	374	12	290	11	144	15
Industrial Arts	59	13	163	14	214	14	233	15	146	14
Unassigned Time	48	15	132	15	....	..	311	14	220	13

studies are not exactly comparable because of slight differences in the data collected, the comparative ranks indicate the relative emphasis placed upon the different subjects. Thus comparisons based upon the actual number of minutes indicated in the different studies are unwarranted, but comparisons based upon relative ranks are permissible.

From this table it is reasonably clear that relatively more emphasis was placed upon the teaching of spelling in the rural and city schools of Michigan than in the large city schools considered in the other investigations. When the subjects are ranked according to the amount of time devoted to the teaching of them, spelling in the rural schools rank 5; in the city schools, 6. According to Ayer, Holmes, and Payne, spelling ranked 9, 5, and 8, respectively. This increased emphasis upon the teaching of spelling manifested in the rural and city schools of Michigan, probably results from the narrow scope of the curriculum existing in the rural schools and in the small schools of Groups I, II, and III. There is some evidence for this assertion in Table 4, but more evidence is available in tabulations not presented.

STUDY NO. 14. French, Will C. *A Study of Children's Letters.* Report presented to Spelling Committee of the 1926 Yearbook.

Problem. To discover the relative importance of sex, grade, locality and sampling in determining a vocabulary.

Method. From all parts of the United States about 1700 children's letters—150,000 running words—were collected. These were normal letters sent through the mail and collected from those who received them. It was assumed that the less formal letters would give a more reliable word list than classroom themes. For a preliminary study, 4000 running words selected from third grade boys' letters; 4000 from third grade girls' letters; and so on for each grade from the third to the eighth inclusive. This made 8000 running words for each grade. The 48,000 running words for the six grades in this preliminary study were divided equally between the sexes and between the grades.

To determine the influence of school grade and sex on vocabulary, from each of the 4000 word units, the 53 words most frequently used were selected.

To find the importance of locality, 4500 running words were selected from a dozen northern states and the same number from the old south.

To find the effect of sampling, 9000 running words and 100,000 running words were tabulated.

Findings. 1. With grade as the only variable, third grade girls and seventh grade girls had 41 words in common of the 53 most frequently used words in the 4000 word units selected for the third and seventh grades. As a check on this number of common words, it is significant to find that third grade boys and seventh grade boys had 41 words common, as do the girls.

2. With sex as the only variable, third grade girls and third grade boys had 39 words common (out of the 53 most frequently used in each of the 4000 word units selected for third grade boys and third grade girls).

This seems to indicate that a difference of four grades in school effects vocabulary slightly less than sex. With sex and grade both as variables, third grade girls and seventh grade boys had 35 words common; and third grade boys and seventh grade girls had 37 words common.

3. With locality as the only variable, it was found that of the 53 most frequently used words (in each of 4500 word units selected) 41 were common. This would indicate that locality (north vs. south) has the same effect as four grades in school.

4. With amount of sampling as the only variable, it was found that of the 53 words most frequently used in each list, (one list of 9000 running words and another of 100,000 running words) 46 were common. This seems to indicate that millions of running words may not be necessary in any special field of vocabulary study; and that other influences may be more important than the size of sampling.

5. This is only a small preliminary study, yet it shows that sex, grade, locality, and sampling are important factors in determining the vocabulary. Possibly these factors are given in order of importance. If sampling is the least important of these four factors, we may well wonder why millions of words are being tabulated in special fields while more important factors are being neglected.

STUDY NO. 15. Horn, Ernest. Report presented to Spelling Committee of the 1926 Yearbook.

As a result of tabulating 5,180,000 words, 38,162 different forms were found exclusive of proper nouns. It is clear that this number of words cannot be taught in the elementary school. The problem during the past year therefore has been to determine first, which of these words are most likely to be needed in writing done in life outside of the school; and, second, which are most important for purposes of spelling. In order to answer these two questions such investigations as the following were undertaken, some being based on the original data of the Commonwealth investigation, and some requiring a collection of new data.

1. To what extent is the importance of a word determined
   a. By the degree to which it is used in various parts of the country?
   b. By the degree to which it is used in various important types of writing?
   c. The degree to which the word is found in writing done at various time intervals?

The results of these investigations were utilized in determining the 10,000 words most likely to be needed in life outside the school.

2. To what extent is the importance of a word for spelling purposes determined by the factor of frequency of use and the second factor of difficulty in spelling? Preliminary data were obtained as to the spelling

difficulty of each of the 10,000 words most commonly used in writing. These data are being used not only in determining a list of most important words for spelling purposes, but also in determining the proper grading of these words.

3. What are the factors which enter into the grade placement of a word? This investigation involved the making of statistical tables showing for each word

- a. Its frequency in the Commonwealth investigation
- b. Its class in the Thorndike list
- c. Its grade placement in each of the investigations of children's themes
- d. Its frequency of use in the spoken vocabulary of young children
- e. Its difficulty in each of the following grades: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 12
- f. Its frequency in readers of the primary grade. The exact manner in which these various factors should be allowed to operate is now being determined.

4. A study of the degree to which students who can spell the base forms of words may be expected to spell derivations formed by adding either suffixes or prefixes to the base word, or by combining base words to form a new compound. One section of this investigation consisted in tabulating the total number of different words falling under each derived form, such as forming the base by adding "d" or "ed." This investigation gives for the first time adequate data upon which the study of spelling rules may be based. For example, it was found that of the first 10,000 words 952 words with a total frequency of 322,125 formed the past tense by adding "ed." 504 of these words simply add the suffix without a change either in the suffix or in the base word. 362 words drop final "e" before adding the suffix. 40 words double the final consonant. 37 words change "y" to "i" before adding "ed." No words change the base except as indicated.

The significance of studies of derived form is easily seen. If children can be taught to make these derived forms from base words, such an ability would add very greatly to the total number of different words over which the child would have a spelling control. Investigations are now on the way to determine the degree to which a knowledge of the base word plus a knowledge of the principal rules for forming derived words are resulting in the correct spelling of the derived form.

Section III. The 3009 Commonest Words Used in Adult Writing

Ernest Horn, State University of Iowa

Under a grant from the Commonwealth Fund the author began in 1923 an investigation of the words most commonly used in writing. The sources of material used in this investigation are briefly described in the Third Yearbook of the Department of Superintendence. To summarize this investigation briefly, it included in addition to a compilation of all investigations made up to the year 1923, new investigations as follows: (1) The vocabulary of letters of 26 dfferent types of business, (2) The vocabulary of personal letters from every state in the Union, (3) An extensive sampling of the letters of eight noted English writers and eight noted American writers; also all of the letters in E. V. Lucas's "The Gentlest Art," (4) The vocabularies of letters printed in magazines and metropolitan newspapers, (5) The vocabulary of letters of application and recommendation, (6) The vocabulary of minutes, resolutions, and committee reports, (7) The vocabulary of excuses written by parents to teachers, and (8) The vocabulary of a single individual over a period of eight years. The total number of running words in these investigations was more than five and one-half million. Over thirty-eight thousand different words were found. The total for each of these words was determined by adding the credits from each of the types of investigation described above. The words were then arranged in order of frequency, the most frequent word being "the," the second most frequent "and," etc.

In this fashion, it was possible to determine within any given limit—say 1000, 5000, 10,000, 20,000—the most common words. In the list on pages 148-169 is given in alphabetical order the 3009 commonest words.[1] The additional nine words are included because of the fact that when the 3000th word was found in order of frequency, there were nine other words of the same frequency. Words preceded by an asterisk (*) are found also in the Thorndike list.[2] Words preceded by a dagger (†), while not reported by Thorndike in the form in which they appear in this list, are reported by him in some form from which they can be built up by adding endings not reported separately in his investigations. Thus, "acts," "acted," "acting" do not appear in the Thorndike list, being credited to "act," but they can be formed by adding to "act" which does appear in his list, the endings "s," "ed," and "ing."

The relative frequency of the words appearing in this list is shown by the numbers and letters which follow each word. The writer has followed Professor Thorndike's plan of combining letters and numbers to indicate in which thousand and in which half of that thousand a word belongs. This furnishes a comparison between this list and the Thorndike list. Thus, 2a means that the word is in the first half of the second thousand; 1b that it is in the second half of the first thousand; 3a that it is in the first half of the third thousand, etc. For example, *able* is in the Thorndike list and is in the first half of the first thousand words most frequently used in writing. In comparing this list it must be remembered that, since certain derived forms are credited to base words in the Thorndike list, it is to be expected that base words will rank higher in that list than in the list here printed.

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[1] For a detailed description of the study and the 10,000 commonest words see Horn, Ernest. *10,000 Words Most Commonly Used in Writing.*

[2] See *The Teacher's Word Book* by Edward L. Thorndike, Teachers College, Columbia University, New York City, 1921.

3009 WORDS OF COMMONWEALTH LIST.

*a	1a
*ability	2b
*able	1a
*about	1a
*above	1a
*abroad	3b
*absence	2a
*absent	2a
*absolute	3b
†absolutely	1b
*abstract	3b
*accept	1a
†acceptable	3a
*acceptance	3a
†accepted	2a
†accepting	3b
*accident	3a
*accommodate	3b
†accompanied	3b
†accomplished	3b
*accordance	1b
*according	1b
*accordingly	2a
*account	1a
†accounting	3b
†accounts	1b
*acknowledge	1b
†acknowledged	3a
†acknowledging	3b
acknowledgment	3a
*acquaintance	2b
†acquainted	2a
*across	2a
*act	1b
†acted	3b
†acting	3a
*action	1b
*active	2b
†activities	3a
*actual	2b
†actually	2b
*add	1b
†added	2a
*addition	1b
*additional	1b
*address	1a
†addressed	1b
†addresses	3b
†adjourned	3b
*adjust	2b
†adjusted	3b
*adjustment	1b
*administration	3b
*admire	3b
*admit	2b
†admitted	3b
†adopted	2b
*advance	1b
†advanced	2b
*advantage	1b
†advantages	3b
*advertisement	3b
†advertising	1b
*advice	1b
*advisable	2b
*advise	1a
†advised	1b
†advises	3a
†advising	1b
*affair	2b
†affairs	2a
*affection	3b
*affectionate	3a
†affectionately	3a
*afford	2b
*afraid	1b
*after	1a
*afternoon	1a
†afterwards	2b
*again	1a
*against	1a
*age	1b
*agency	2b
*agent	1b
†agents	3a
†ages	3b
*ago	1a
*agree	1b
*agreeable	2b
†agreed	2b
*agreement	2a
*agriculture	3b
*ahead	2a
*aid	2a
*aim	2b
*air	2a
*alive	3a
*all	1a
*allow	1b
*allowance	2b
†allowed	1b
†allowing	3a
all right	2b
*almost	1a
*alone	1b
*along	1a
*already	1a
*also	1a
*although	1b
*altogether	2b
*always	1a
*am	1a
*ambition	3b
*American	2a
*among	1b
*amount	1a
†amounting	2a
†amounts	2a
*ample	3b
*an	1a
*ancient	3b
*and	1a
*angry	3b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†announced	3b
*announcement	3b
*annual	2a
*another	1a
*answer	1a
†answered	2a
†answering	1b
†answers	3a
*anticipate	3b
*anxious	1b
*any	1a
*anybody	2b
*anyhow	3b
*anyone	1b
*anything	1a
*anyway	1b
*anywhere	2b
*apartment	3a
*apparent	3b
†apparently	2a
*appeal	3a
*appear	1b
*appearance	3a
†appeared	3a
†appears	2a
*application	1b
†applications	3b
*applied	2a
*apply	1b
†applying	3a
†appointed	2b
*appointment	3a
*appreciate	1a
†appreciated	1b
*appreciation	2b
*approval	1b
*approve	3a
†approved	2a
*approximate	3b
†approximately	2b
*April	1b
*are	1a
*aren't	3a
*argument	3b
*arm	1b
†arms	3a
*army	2b
*around	1a
*arrange	1b
†arranged	2a
*arrangement	1b
†arrangements	2a
*arrival	2a
*arrive	2a
†arrived	1b
*art	2a
*article	1b
†articles	2a
*as	1a
*ascertain	3b
*ashamed	2b
*aside	3a
*ask	1a
†asked	1a
†asking	1b
*asleep	3b
†assigned	3b
*assignment	3b
*assist	2a
*assistance	2a
*assistant	2b
*association	1b
*assortment	3b
*assume	2a
*assurance	3a
*assure	1b
†assured	2a
†assuring	2a
*at	1a
*ate	3a
*attach	2b
†attached	1b
†attaching	2b
*attack	3b
*attempt	2a
*attend	1b
*attendance	3b
†attended	2b
†attending	3a
*attention	1a
*attitude	2b
*attorney	2b
*attractive	2b
*August	1b
*aunt	2a
*author	3a
*authority	2b
†authorized	3a
*auto	2b
*automobile	2b
*available	1b
*avenue	2b
*average	2a
*avoid	2b
*await	3a
†awaiting	2a
*aware	3a
*away	1a
*awful	1b
†awfully	2a
*awhile	3a
*baby	1b
*back	1a
*bad	1a
†badly	2a
*bag	3b
†bags	3b
*balance	1a
*ball	2a
*band	2b
*bank	1a
†banking	3b
†banks	3b
*banquet	2b
*barn	3b
*barrel	3b
*base	3a
*baseball	3b
†based	2b
*basis	1b
*basket	3a
basketball	3a
*bat	3a
*bath	3a
*battle	3b
*bay	3a
*be	1a
*beach	3b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*bear	2a
*bearing	2b
*beat	2a
*beautiful	1b
*beauty	2a
*became	2b
*because	1a
*become	1b
†becomes	3a
†becoming	3a
*bed	1a
*bee	3b
*been	1a
*before	1a
*beg	1a
*began	2a
*begin	1b
†beginning	1b
†begins	3a
*begun	3a
*behalf	3b
*behind	2a
*being	1a
*belief	3a
*believe	1a
†believed	3a
*bell	3a
*belong	3a
*below	2a
*belt	3a
*benefit	2a
*beside	3a
*besides	2a
*best	1a
*bet	2b
*better	1a
*between	1a
*beyond	2a
*bid	2b
*big	1a
*bill	1a
†billed	2b
†billing	3a
†bills	1b
*bird	3b
†birds	3b
*birthday	2a
*bit	1b
*black	1b
*blame	2b
*blank	1b
†blanks	3a
*bless	3a
*block	2b
*blood	3a
*blow	3a
*blue	1b
*board	1b
*boat	2b
*body	2a
*bog	3a
*bond	2a
†bonds	2b
*book	1a
*booklet	2b
†books	1a
*born	3a
*borrow	3b
*both	1a
*bother	2b
*bottle	3a
*bottom	2a
*bought	2a
*bound	2b
*box	1a
†boxes	2b
*boy	1a
†boys	1b
*branch	2b
†branches	3b
*bread	3a
*break	2a
*breakfast	2a
†breaking	3b
*brick	3b
*bridge	2b
*brief	3a
*bright	2b
*bring	1a
†bringing	2b
†brings	3a
*broke	2b
*broken	2a
*brother	1b
†brothers	3b
*brought	1b
*brown	2a
*build	2a
*building	1b
†buildings	3b
*built	3a
*bulletin	2b
*bunch	2a
*bureau	2b
*burn	3b
*bus	3b
*business	1a
†businesses	3b
*busy	1a
*but	1a
*butter	3a
*buy	1a
†buying	2b
*by	1a
*cabinet	3a
*cake	2b
*calendar	3b
*call	1a
†called	1a
†calling	1b
†calls	2a
*came	1a
*camp	2b
*campaign	2b
campus	3b
*can	1a
*cancel	2a
†cancelled	2a
cancellation	3a
*candy	2a
*cannot	1a
*can't	1a
*cap	2a
*capable	3a
*capacity	2b
*capital	3a
*captain	3b
*car	1a

*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*carbon	3b
*card	1a
†cards	2a
*care	1a
†cared	3b
*careful	1b
†carefully	1b
†carried	1b
*carry	1b
†carrying	2b
†cars	1b
*case	1a
†cases	1b
*cash	1b
*cashier	3a
*cast	3a
*cat	3b
*catalog	1b
†catalogues	3a
*catch	2b
*cattle	3b
*caught	2b
*cause	1b
†caused	2a
†causes	3b
*cent	2a
*center	2b
*central	2b
†cents	2a
*century	3b
*certain	1b
†certainly	1a
*certificate	2a
†certificates	3b
*chain	3b
*chair	2b
*chairman	2b
†chairs	3b
*chance	1b
†chances	3b
*change	1a
†changed	2a
†changes	2a
†changing	3a
*chapter	2b
*character	1b
*charge	1a
†charged	1b
†charges	1b
†charging	3a
†charming	3b
*cheap	2b
†cheaper	3b
*check	1a
†checked	2b
†checking	2b
†checks	2a
*cheer	3b
*cheerful	3a
*chemistry	3b
*chicken	3a
†chickens	3b
*chief	2b
*child	1b
*children	1b
*choice	2b
*choose	2b
*Christian	3b
*Christmas	2a
*church	1b
*circular	2a
†circumstances	2a
†cities	2b
*city	1a
*civil	3b
*claim	1b
†claims	2b
*class	1a
†classes	2a
*clean	2a
†cleaned	3a
†cleaning	3b
*clear	1b
†clearly	3a
*clerk	2b
*clever	3a
*climate	3b
*clock	3b
*close	1a
†closed	2a
†closely	3a
†closing	3a
*cloth	2b
†clothes	2a
*club	1b
†clubs	3b
*Co.	2a
*coach	3b
*coal	2a
*coast	3a
*coat	2a
†coats	3b
C. O. D	3b
*coffee	2b
*cold	1a
*collar	3b
*collect	2a
†collected	3a
*collection	1b
†collections	3b
*college	1b
*color	2a
†colored	3a
†colors	3a
*column	3a
*combination	3a
*come	1a
†comes	1b
*comfort	2b
*comfortable	3a
*coming	1a
*command	3b
*commencement	3b
*comment	3b
*commerce	3a
*commercial	2b
*commission	2a
*committee	1b
*common	1b
*communicate	3a
*communication	2a
*community	2b
†companies	3b
*company	1a
company's	3a
*compared	3b
†compare	3a
*comparison	3b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†compelled	3b
*competition	3b
*complain	3b
*complaint	2b
*complete	1a
†completed	2a
†completely	2b
*compliance	3a
*compliment	3b
*comply	2b
†complying	3b
*concern	2b
†concerned	2a
*concerning	1b
*concert	3a
*conclude	3b
*conclusion	3a
*concrete	3b
*condition	1b
†conditions	1b
*conduct	2b
*conference	2b
*confess	3a
*confidence	2b
*confident	2b
*confirm	3b
*congratulate	3b
†congratulations	3b
*congress	3a
†connected	2b
*connection	1a
†connections	3a
*consent	3b
*consequence	3a
†consequently	2a
*consider	1b
*considerable	1b
*considerably	2b
*consideration	1b
†considered	2a
†considering	2b
*constant	3b
†constantly	3b
*constitution	3b
*construction	2b
*contain	3a
†contained	2b
†containing	2b
†contains	3a
*content	3a
†contents	3a
*contest	3a
*continue	1b
†continued	2b
*contract	1a
†contracts	3a
*contrary	2b
*control	3a
*convenience	1b
*convenient	2a
*convention	2b
*conversation	2a
†convinced	3b
*cook	2b
†cooking	3b
*cool	3a
*cooperate	2b
*cooperation	1b
†copies	1b
*copy	1a
†cordially	3a
*corn	2a
*corner	2b
*corporation	3a
*correct	1b
†corrected	2b
*correction	3b
†correctly	3a
*correspond	3b
*correspondence	1b
*correspondent	3b
*cost	1a
†costs	2b
*cotton	3a
*could	1a
*couldn't	2a
*council	3b
*count	2a
*country	1a
*county	1b
*couple	1b
*courage	3a
*course	1a
†courses	3a
*court	2a
*courtesy	2b
*cousin	2a
*cover	1a
†covered	1b
†covering	1a
†covers	2a
*cow	2a
*crazy	2a
*cream	2b
*credit	1a
†credited	2a
†credits	3b
*criticism	3a
*crop	2b
*cross	2b
*crowd	2a
*cry	2a
*cup	3a
*current	2b
*custom	3a
*customer	1b
†customers	2a
*cut	1a
*cute	2b
†cutting	3a
*dad	2b
*daddy	3b
*daily	2a
*damage	3a
†damaged	3b
*dance	1b
†dances	3b
†dancing	3a
*dandy	2b
*danger	2b
*dare	2b
*dark	2a
*darling	2a
*data	3a
*date	1a
†dated	1b
†dates	2b
*daughter	2b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*day	1a
†days	1a
*dead	2a
*deal	1b
*dealer	3a
†dealers	3a
*dear	1a
†dearest	1b
*death	2a
*Dec.	3a
*December	1a
*decide	1b
†decided	1b
*decision	2a
deduct	3b
deducted	2b
*deed	3b
*deep	2a
†deeply	3b
*defective	3a
*definite	1b
†definitely	2a
*degree	2a
*delay	1a
†delayed	2b
*delight	3b
†delighted	2b
*delightful	2b
*deliver	2b
†delivered	1b
*delivery	1b
*demand	2a
†demands	3b
*demonstration	3b
*department	1a
†departments	2b
*depend	2b
†depends	3b
*deposit	2b
*depot	3a
dept	3b
*describe	3b
†described	3a
*description	2a
*deserve	3a
*design	3a
*desirable	3a
*desire	1a
†desired	2a
†desires	3a
*desirous	3a
*desk	2b
*destination	3a
*destroy	3b
*detail	2b
†details	2a
*determine	2b
†determined	3a
*develop	2b
†developed	3a
*development	3b
*devil	3b
†devoted	3b
*did	1a
*didn’t	1a
*die	2a
†died	2a
*difference	1b
*different	1a
*difficult	2a
†difficulties	3b
*difficulty	2a
*dignity	3b
†dining	3b
*dinner	1a
*direct	1b
†directed	3a
*direction	2b
†directly	2b
*director	3a
†directors	3b
*dirty	3b
*disappoint	3b
†disappointed	2a
*discount	1b
†discovered	3a
*discuss	3b
†discussed	3b
*discussion	3a
*dispatch	3b
*display	3b
*dispose	2b
†disposed	2b
*disposition	2b
*distance	2b
*distribution	2b
*district	2a
†divided	3b
*division	1b
*do	1a
*doctor	1b
*does	1a
*doesn’t	1b
*dog	2a
†doing	1a
*dollar	2a
†dollars	1b
*domestic	3a
*done	1a
*don’t	1a
*door	1b
†doors	2a
*double	2a
*doubt	1a
*doubtless	3a
*down	1a
*dozen	1b
*Dr.	2a
*draft	1b
*draw	2b
†drawing	2b
*drawn	2b
*dream	2b
†dreams	3b
*dress	1b
†dressed	3a
†dresses	3a
*drink	3b
*drive	2a
†driving	3b
*drop	2a
†dropped	3b
*drove	2b
*dry	2a
*due	1a
*dull	3b
*duly	2b
*duplicate	1b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*during	1a
*dust	3b
†duties	3a
*duty	2a
*each	1a
*ear	3a
†earlier	2b
†earliest	1b
*early	1a
*earnest	3a
*earth	2b
*easier	3a
*easily	2a
*east	2a
*eastern	3a
*easy	2a
*eat	1a
†eating	2b
*edge	3b
*edition	2b
*editor	3b
*education	1b
*educational	3a
*effect	1b
*effective	2b
*effort	1b
†efforts	2b
*egg	2a
*eight	1b
*eighteen	3b
*either	1a
†elected	2b
*election	2b
*electric	3a
*eleven	2b
*else	1b
*elsewhere	3a
†employed	3a
†employees	3a
*empty	3b
*enable	2a
*enclose	1a
†enclosed	1a
†enclosing	1a
enclosure	3b
*end	1a
*endeavor	2a
†ends	3b
*energy	3b
†engaged	2b
*engagement	3b
*engine	3b
*English	3a
*enjoy	1b
†enjoyed	2a
†enjoying	2b
*enough	1a
*enter	2a
†entered	2a
†entering	2b
*entertain	3a
*entire	1b
†entirely	1b
†entitled	2a
*envelope	1b
†envelopes	3b
*envy	3b
*equal	2b
†equally	3a
*equipment	1b
†equipped	3a
*error	1b
†especially	1b
*essential	3a
*establish	3b
†established	3a
*estate	2b
*estimate	2a
*etc.	1b
*even	1a
*evening	1a
*event	2a
†events	3a
*ever	1a
*every	1a
*everybody	1b
*everyone	2a
*everything	1a
*everywhere	3b
*evidence	2b
†evidently	2a
*evil	3a
*exact	2b
†exactly	1b
*examination	1b
†examinations	2b
*examine	3a
†examined	3a
*example	3a
†exceedingly	2b
†excellent	2a
*except	1a
*exception	2a
*excess	3b
*exchange	1b
†excited	3a
*excitement	2b
†exciting	3b
*exclusive	3b
*excuse	1b
†executed	3a
*executive	3a
*exercise	3a
†exhausted	3a
*existence	3b
*expect	1a
†expected	1b
†expecting	2a
*expense	1b
†expenses	2b
*expensive	3a
*experience	1b
†experienced	3b
*explain	2a
†explained	2b
†explaining	3b
*explanation	2a
*express	1a
†expressed	2b
*expression	2b
*extend	2b
†extended	2b
†extending	3b
*extension	2a
*extent	2a
*extra	1b
†extremely	2a
*eye	1b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†eyes	1b
*face	1b
*fact	1a
*factory	1b
†facts	2a
*faculty	2a
*fail	2a
†failed	2a
*failure	2b
*fair	1b
†fairly	2b
*faith	2b
†faithfully	3b
*fall	1b
*fallen	3b
*false	3b
*familiar	2b
*family	1b
*famous	3a
*fancy	2b
*far	1a
*farm	1b
*farmer	3a
†farmers	2b
*farther	3a
*fashion	3a
*fast	2a
*fat	1b
*fate	3b
*father	1b
*fault	2a
*favor	1a
*favorable	2a
†favorably	3a
†favored	2b
*favorite	3b
†favors	2b
*fear	1b
*feature	2b
Feb.	3a
*February	2a
*federal	3b
*fee	1b
*feed	2a
*feel	1a
*feeling	1b
†feelings	2b
†feels	2b
*feet	1b
*fell	2b
*fellow	1b
†fellows	2a
*felt	1b
*fence	3b
*fever	3a
*few	1a
*field	2a
†fields	3b
*fifteen	2a
*fifth	3a
*fifty	2a
*fight	2a
†fighting	3b
*figure	2a
†figured	3a
†figures	2a
*file	1b
†filed	2b
†files	1b
†filing	3a
*fill	1b
†filled	1b
†filling	2b
*final	2a
*finally	2a
*financial	2a
*find	1a
†finding	2b
†finds	3a
*fine	1a
†finest	3b
finish	1b
†finished	1b
*fire	1b
*firm	2a
*first	1a
*fish	3a
†fishing	3b
*fit	1b
*five	1a
*fix	1b
†fixed	2a
*flat	2b
*floor	1b
*flower	3b
†flowers	2a
*fly	2b
F. O. B.	2a
*folk	3b
†folks	1b
*follow	1b
†followed	2b
*following	1a
†follows	1b
*fond	3b
*food	2b
*fool	3a
*foolish	3a
*foot	2a
*football	2b
*for	1a
*force	2a
†forced	3b
*foreign	2a
*forever	3b
*forget	1b
*forgive	2a
*forgot	2a
*forgotten	2a
*form	1b
*formal	3a
*former	2a
†formerly	3a
†forms	2b
*forth	3a
*fortunate	3a
*fortune	3b
*forty	2b
*forward	1a
†forwarded	1b
†forwarding	2a
*found	1a
*foundation	3b
*four	1a
*fourteen	3b
*fourth	2a
*frame	3a
*frank	3a

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†frankly	3b
*fraternity	3a
*free	1b
*freedom	3b
*freight	1b
†frequently	2b
*fresh	2b
*Friday	1a
*friend	1a
*friendly	2a
†friends	1b
*friendship	2b
*from	1a
*front	1b
*fruit	2b
*fry	3b
*ft.	3a
*full	1a
*fully	1b
*fun	1b
*fund	3a
†funds	2b
*funeral	3b
*funny	1b
*fur	1b
*furnish	1a
†furnished	2a
†furnishing	2b
*furniture	2b
*further	1a
*furthermore	3b
*future	1a
*gain	3a
†gained	3b
*gallon	3b
*game	1b
†games	3b
*garage	3b
*garden	2a
*gas	2a
*gave	1a
*general	1a
†generally	2a
*generous	3a
*genius	3b
*gentleman	2a
gentlemen	1b
*genuine	3b
*get	1a
†gets	2a
†getting	1a
*gift	2b
*girl	1a
†girls	1b
*give	1a
*given	1a
†gives	1b
†giving	1a
*glad	1a
†gladly	2a
*glass	2a
*glorious	2b
*go	1a
*God	3a
*goes	1b
*going	1a
*gold	2a
*golden	3b
*golf	3b
*gone	1a
*good	1a
*good-bye	2b
*goodness	3a
†goods	1a
*got	1a
*gotten	2a
*government	1b
*grade	1b
†grades	2a
*graduate	2a
*graduation	3a
*grain	3a
*grand	2a
*grandma	3b
*grant	3a
†granted	3a
*grass	3a
*grateful	3a
*grave	3b
*gray	2b
*great	1a
†greater	2a
†greatest	2a
†greatly	1b
*green	2a
*gross	3a
*ground	1b
†grounds	3b
*group	2b
*grow	2b
†growing	2b
†grown	3a
*guarantee	2b
*guard	3b
*guardian	2a
*guess	1a
†guessed	3b
*guest	3b
*guilty	3b
*gun	3b
*ha	2a
*habit	3a
†habits	3b
*had	1a
*hadn't	3a
*hair	1b
*half	1a
*hall	2b
*hand	1a
†handed	3a
*handle	1b
†handled	2a
†handling	1b
†hands	1b
*handsome	3a
*handy	3b
*hang	3a
*happen	1b
†happened	2a
†happens	2b
*happiness	2a
*happy	1a
*hard	1a
*hardly	1b
*harm	3b
*has	1a
*hasn't	2b
*hat	1b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*hate	2a
†hated	3b
*have	1a
haven't	1b
†having	1a
*hay	2a
*he	1a
*head	1b
*headache	3b
†heads	3a
*health	1b
†heaps	3b
*hear	1a
*heard	1a
†hearing	2a
*heart	1b
*heartily	3b
*heat	3a
*heaven	3a
*heavy	2a
*height	3b
*held	1b
*hello	2b
*help	1a
†helped	2b
*helpful	3a
†helping	3a
†helps	3b
*hen	3b
*hence	2b
*her	1a
*here	1a
hereto	3b
*heretofore	3a
*herewith	1a
*herself	2b
*hesitate	2b
*high	1a
†higher	2a
†highest	2b
†highly	2b
*hill	3a
†hills	3b
*him	1a
*himself	1b
*his	1a
*history	1b
*hit	2b
*hog	2a
*hold	1b
†holding	1b
*hole	3b
*holiday	2b
*home	1a
*homesick	3a
*honest	2a
†honestly	3a
*honesty	3a
*honey	3a
*honor	2a
*hope	1a
†hoped	3a
†hopes	2b
†hoping	1b
*horse	2b
†horses	3a
*hose	3b
*hospital	2a
*hot	1b
*hotel	2a
*hour	1b
†hours	1b
*house	1a
*household	3b
†houses	2a
*how	1a
*however	1a
*hug	2b
*human	2a
*hundred	1b
*hurry	2a
*hurt	2a
*husband	2a
*I	1a
*ice	2a
*idea	1b
*ideal	2b
†ideas	2b
*if	1a
*I'll	3a
*ill	2a
*illness	3b
*I'm	2a
*imagination	3b
*imagine	1b
*immediate	1b
†immediately	2a
*importance	2b
*important	1b
*impossible	1b
*impression	2a
*improve	3b
†improved	3a
*improvement	2b
*in	1a
*inability	3a
*inasmuch	2a
*inch	2b
†inches	2b
†inclined	2b
*include	1b
†included	2a
†includes	3a
†including	1b
inclusive	3b
*income	3a
*inconvenience	2b
†inconvenienced	3b
*increase	1b
†increased	2b
†increasing	3b
*indeed	1a
*independent	3b
*indicate	2a
†indicated	2b
*individual	2b
*industrial	3b
*influence	2b
*inform	1b
*information	1a
†informed	2a
†informing	3b
*ink	2b
*inquire	3a
†inquiries	3b
†inquiring	3b
*inquiry	1b
*inside	2b

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*insist	2b
*inspection	2b
inst.	1b
*instance	2a
*instant	2a
*instead	1b
*institute	3b
*institution	3b
*instruct	3b
†instructed	2b
*instruction	3a
†instructions	1b
*insurance	1b
†insured	3b
*intelligent	3b
*intend	2a
†intended	2a
*intention	2b
*interest	1a
†interested	1a
†interesting	1b
†interests	2b
*interfere	3b
*interview	3b
*into	1a
†introduced	3b
inventory	3a
*investigate	3a
*investigation	2b
*investment	3a
*invitation	2a
*invite	3b
†invited	2a
*invoice	1a
†invoices	2a
†involved	3a
*iron	2a
*is	1a
*isn't	1b
*issue	1b
†issued	2a
*it	1a
*item	1b
itemized	3b
†items	1b
*it's	3a
*its	1a
*itself	2a
*I've	3a
*Jan.	3a
*January	1a
*jar	3b
*jealous	3a
*job	1a
*join	2b
†joined	3b
*joint	3b
*joke	3b
*journal	3a
*journey	3a
*joy	2b
*judge	2a
*judgment	1b
*July	1b
*jump	3b
*June	1b
*junior	3a
*just	1a
*justice	2b
†justified	3a
*justify	3b
*keen	3b
*keep	1a
†keeping	2a
†keeps	3a
*kept	1b
*kid	1b
†kids	3a
*kill	3b
†killed	3a
*kind	1a
†kindest	2a
†kindly	1a
*kindness	2a
†kinds	3a
*king	3b
*kiss	2b
†kisses	3b
*kitchen	2b
*knew	1a
*know	1a
†knowing	2a
*knowledge	1b
*known	1b
†knows	2a
*labor	2a
*lace	3b
*lack	3a
*ladies	2b
*lading	2a
*lady	1b
*laid	2b
*lake	2b
*land	1b
*language	2b
*lap	3b
*large	1a
†largely	3b
†larger	2a
†largest	3b
*last	1a
*late	1b
†lately	2a
†later	1a
†latest	2b
*latter	1b
*laugh	2a
†laughed	3a
*laundry	3b
*law	1b
†laws	3a
*lay	2a
*lazy	3a
†lbs.	3b
*lead	2a
†leading	3a
*learn	1b
†learned	2a
†learning	3a
*lease	3a
*least	1a
*leather	2b
*leave	1a
*leaves	2a
†leaving	1b
*lecture	2b
*left	1a
*leg	2b

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*legal	3a
*leisure	3b
*length	2a
*less	1a
*lesson	2b
†lessons	2b
*let	1a
*letter	1a
†letters	1a
†letting	3a
liability	3b
*liberal	2b
*liberty	2a
*library	2a
*lie	2a
†lies	3b
*life	1a
*light	1b
†lights	3b
*like	1a
†liked	2a
*likely	2a
†likes	3a
*limit	3a
†limited	2b
*line	1a
†lines	1b
*list	1a
†listed	2a
*listen	2b
†lists	3a
*literary	3a
*literature	2a
*little	1a
*live	1b
†lived	2b
*lively	3b
†lives	2a
†living	1b
*load	2b
†loads	3b
*loan	2a
*local	1b
*locate	1b
†located	2a
*location	2a
*lodge	3b
*lonely	3b
*lonesome	2a
*long	1a
†longer	1b
*look	1a
†looked	1b
†looking	1a
†looks	2a
*loose	2b
*Lord	3a
*lose	2a
*loss	1b
*lost	1b
*lot	1a
†lots	1b
*love	1a
†loved	2b
*lovely	1b
*lover	3b
†loves	3b
†loving	2b
lovingly	2a
*low	1b
*lower	2a
†lowest	3a
*luck	2a
*lucky	2b
*lumber	3a
*lunch	2a
*luncheon	3b
*ma	1b
*machine	1b
*machinery	3b
†machines	3a
*mad	2a
*madam	3a
*made	1a
*magazine	3a
*maid	3b
*mail	1a
†mailed	1b
†mailing	2a
*main	2a
*maintain	3a
*majority	3a
*make	1a
†makes	1b
†making	1a
*mamma	2a
*man	1a
*manage	3a
*management	3b
*manager	1b
*manner	1b
†manners	3b
man's	3a
*manufacture	3a
†manufacturers	3a
†manufacturing	3a
*many	1a
*map	3b
*mar	2b
*March	1b
*mark	2b
†marked	2a
*market	1b
*marriage	3a
*married	1b
*marry	3a
*master	2b
*match	3a
*material	1a
†materials	3a
*matter	1a
†matters	1b
*May	1b
*may	1a
*maybe	1b
*me	1a
*meal	3a
*mean	1b
†meaning	3a
†means	1b
*meant	2a
*meantime	2a
*measure	2a
*meat	3b
*medicine	3a
*medium	3b
*meet	1a
†meeting	1a

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†meetings	2b
†meets	2b
*member	2a
†members	1b
*membership	3a
memo	3b
memorandum	1b
*memory	3a
*men	1a
*mention	1b
†mentioned	1b
*merchandise	1b
*mere	2b
†merely	2a
*merit	3b
*message	2b
*met	1b
*metal	3a
*method	2a
†methods	3a
*mid	3a
*middle	2a
*midst	3b
*might	1a
*mighty	2a
*mile	2b
†miles	1b
*military	3a
*milk	2a
*mill	2b
*million	3a
†mills	3b
*mind	1a
†minds	3b
*mine	1b
*minimum	3b
*minister	3b
*minute	2a
†minutes	1b
*miserable	3a
*miss	1b
*Miss	1b
†missed	2a
†missing	3b
*missionary	3b
*mistake	2a
†mistaken	3b
†misunderstanding	3a
†mixed	3a
*model	2b
*modern	2b
*moment	1b
*Monday	1a
*money	1a
*month	1a
*monthly	2b
†months	1a
*mood	3b
*moon	2b
*moral	3b
*more	1a
*morning	1a
*mortgage	2a
*most	1a
†mostly	3a
*mother	1a
mother's	3b
*motion	2a
*motor	2b
*mountain	3b
†mountains	2b
*mouth	3a
*move	2a
†moved	2a
*movement	2b
movies	3b
†moving	2a
*Mr	1a
*Mrs	1a
*much	1a
*mud	2b
*music	1b
*must	1a
*mutual	3a
*my	1a
*myself	1a
*name	1a
†named	2b
*namely	3a
†names	2a
*nap	2b
*nation	3a
*national	1b
*natural	2a
†naturally	2a
*nature	1b
*navy	3a
*near	1a
†nearest	3b
†nearly	1b
†necessarily	3b
*necessary	1a
*necessity	2a
*neck	3a
*need	1a
†needed	2a
*needless	3b
†needs	2a
*neglect	2b
†neglected	2b
*neighbor	3b
*neighborhood	3a
*neither	2a
*nervous	2b
*net	2a
*never	1a
*nevertheless	2b
*new	1a
*news	1b
*newspaper	2b
†newspapers	3b
*next	1a
*nice	1a
†nicely	2a
*niece	3b
*night	1a
†nights	2b
*nine	2a
*no	1a
*no.	1a
*noble	3a
*nobody	2a
*noise	3b
*none	2a
*noon	2a
*nor	2a
*normal	2a
*north	2a

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*northern	3b
*nose	3b
*not	1a
notation	2a
*note	1a
†noted	2a
†notes	1b
*nothing	1a
*notice	1a
†noticed	2b
†notified	3b
*notify	2a
*notion	3b
*Nov.	3b
*November	1a
*now	1a
*number	1a
†numbers	2a
*numerous	3a
*nurse	3a
*nut	3a
*object	2a
*objection	3a
*obligation	3b
†obligations	3b
*oblige	1b
†obliged	1b
*observe	3a
*obtain	2a
†obtained	2b
†obtaining	3b
*occasion	2a
*occasional	3b
†occasionally	3a
†occasions	3b
†occupied	3b
*occur	3b
†occurred	2b
†occurs	3b
*o'clock	1b
*Oct.	3a
*October	1b
*odd	3b
*of	1a
*off	1a
*offer	1a
†offered	2a
†offering	2b
†offers	3b
*office	1a
*officer	3a
†officers	2a
†offices	3a
*official	2b
*often	1b
*oh	1b
*oil	2a
O. K	3a
*old	1a
†older	2b
†omitted	2b
*on	1a
*once	1a
*one	1a
one-half	3a
one's	3a
†ones	2a
*only	1a
*open	1a
†opened	2a
†opening	1b
*operate	3a
†operated	3b
†operating	3a
*operation	2b
*opinion	1b
†opinions	3b
†opportunities	3a
*opportunity	1a
*opposite	3b
*or	1a
*orange	3a
*orchestra	3b
*order	1a
†ordered	1a
†ordering	2b
†orders	1a
*ordinary	2a
*organization	2a
†organized	3b
*original	1b
†originally	2b
*other	1a
†others	1b
*otherwise	1b
*ought	1b
*our	1a
*ours	2b
*ourselves	1b
*out	1a
*outfit	2b
*outline	3a
†outlined	3a
*outside	2a
outstanding	3a
*oven	3b
*over	1a
overcharge	3b
overdue	3a
†overlooked	2b
*oversight	3a
*owe	1b
†owing	2a
*own	1a
†owned	3b
*owner	3a
*pa	1b
*pack	3b
*package	1b
†packages	3a
†packed	3b
†packing	3b
*page	1b
†pages	2a
*paid	1a
*pain	2b
*paint	2b
†painted	3b
*pair	2a
*pal	3a
*pamphlet	3b
*pan	3a
*papa	2a
*paper	1a
†papers	1b
*paragraph	3a
*parcel	2b
parcel post	2b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*pardon	2b
†parents	3b
*park	2b
*part	1a
*partial	3b
*particular	1b
†particularly	1b
†parties	2b
*partly	3b
†parts	1b
*party	1b
*pass	2a
†passed	1b
†passing	2b
*past	1a
*patent	3b
*patience	3a
*patient	3a
patronage	3b
*pattern	2b
*pay	1a
*payable	2b
†paying	2a
*payment	1a
†payments	2b
*peace	2a
*peach	3b
*pen	2a
*pencil	3a
*people	1a
*per	2a
*per cent	2b
*perfect	2a
†perfectly	2a
*perhaps	1a
*period	1b
*permanent	2b
*permission	3a
*permit	2a
*person	1b
*personal	1b
†personally	2a
†persons	2a
*phone	2a
*photograph	3b
*physical	3a
*piano	2b
*pick	2b
†picked	3b
*picnic	3a
*picture	1b
†pictures	2a
*pie	2a
*piece	1b
†pieces	2b
*pig	2b
*pin	2b
*pink	3b
*pipe	2b
*pity	3b
*place	1a
†placed	1b
†places	1b
†placing	2b
*plain	2a
*plan	1b
†planned	2b
†planning	1b
†plans	1b
*plant	1b
†plants	3a
*plate	2b
†plates	3a
*play	1a
†played	2a
†playing	2a
†plays	3a
*pleasant	1b
*please	1a
†pleased	1a
†pleasing	3a
*pleasure	1a
*plenty	2a
*plus	2b
*pocket	3a
*poem	2b
†poems	3a
*poet	3b
*poetry	3a
*point	1b
†points	2a
*policy	1b
*political	3a
*politics	3b
*poor	1b
*popular	2b
*population	3b
*porch	3a
*portion	2a
*position	1a
†positions	3b
*positive	3a
†positively	3b
*possession	2b
*possibility	2a
*possible	1a
†possibly	1b
*post	1b
*postage	2a
*postal	3a
*post office	3b
†potatoes	3b
*poultry	3b
*pound	2b
†pounds	2b
*power	1b
*practical	2b
†practically	2a
*practice	1b
*praise	3b
*pray	2b
*prayer	3a
*precious	3b
*prefer	2a
†preferred	3b
*premium	2b
*prepaid	2b
*preparation	3a
*prepare	2a
†prepared	2a
†preparing	3a
*presence	3a
*present	1a
†presented	2b
†presents	3b
*president	1b
*press	2b
*pressure	3b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*presume	2a
*pretty	1a
*prevent	2b
*previous	2a
†previously	3a
*price	1a
†priced	3a
†prices	1a
*pride	3a
*primary	3b
*principal	2a
*principle	3a
†principles	3b
*print	2a
†printed	2a
†printing	3a
*prior	3a
*private	2a
*privilege	2b
*prize	3a
*probable	3a
†probably	1a
*problem	2b
†problems	2a
*proceed	2b
*procure	3b
*produce	3a
†produced	3b
*product	3a
*production	3a
†products	3b
*professor	3a
*profit	2b
*profitable	3a
*program	1b
*progress	2b
*promise	2a
†promised	2a
†promises	3b
*prompt	1a
†promptly	1a
*proof	2a
*proper	1b
†properly	2a
*property	1b
*proportion	3b
†proposed	2b
*proposition	1b
*prospect	3a
†prospects	2b
*protection	3a
*proud	2a
*prove	2a
†proved	3a
*provide	2b
†provided	2b
†providing	3a
*public	1b
*publication	2b
*publish	3a
†published	2a
*pull	3a
†pulled	3b
*pump	3b
*pupil	3b
†pupils	3a
*purchase	1b
†purchased	1b
†purchases	3a
†purchasing	3a
*pure	3a
*purpose	1b
†purposes	2b
*put	1a
†putting	2a
†qualities	2b
*quality	2a
†quantities	3b
*quantity	2a
*quarter	2a
*queer	3a
*question	1a
†questions	1b
*quick	2b
†quickly	2b
*quiet	2a
*quit	2b
*quite	1a
*quotation	2b
†quotations	3a
*quote	1b
†quoted	2b
†quoting	2b
*race	3b
*radio	3a
*rag	3b
*railroad	2a
*railway	2b
*rain	1b
†rained	3a
†training	3a
*raise	2a
†raised	3b
*ran	3b
*range	3a
†rapidly	3a
*rate	1b
†rates	2b
*rather	1a
*raw	2b
*reach	1b
†reached	1b
†reaches	2b
*read	1a
*readily	2b
†reading	1b
†reads	3b
*ready	1a
*real	1a
*realize	1b
†realized	3b
*really	1a
*rear	3b
*reason	1a
*reasonable	2a
†reasons	2b
*recall	2b
*receipt	1a
†receipts	3a
*receive	1a
†received	1a
†receiving	1b
*recent	1a
†recently	1b
*reception	3a
*recognize	3b
*recommend	2a
*recommendation	2b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†recommended	3a
*record	1b
†records	1a
†recovered	3b
*red	1b
*reduce	3a
†reduced	3a
*reduction	3b
*refer	1b
*reference	1a
†referred	1b
†referring	2a
*refund	2b
*refuse	3a
†refused	2b
*regard	1a
*regarding	1a
*regardless	3b
†regards	1b
*register	2b
†registered	3b
*regret	1a
†regretting	3a
*regular	1b
†regularly	3a
*relation	2b
†relations	2b
*relative	1b
*release	3b
*reliable	3b
*relief	3a
*religious	3b
*remain	1a
*remainder	3b
†remaining	3a
†remains	3a
*remark	3b
*remarkable	3b
†remarks	3b
*remember	1a
†remembered	3a
*remind	3b
*remit	2a
*remittance	1a
†removed	3a
*render	3a
†rendered	2b
*renewal	3b
*rent	2b
*repair	2b
†repaired	3b
†repairs	2b
*repeat	3b
*replace	2b
†replied	3a
*reply	1a
†replying	1a
*report	1a
†reported	2a
†reporting	3a
†reports	1b
*represent	3a
*representative	2a
†representatives	3a
†represented	3b
†represents	3a
*reputation	3b
*request	1a
†requested	1b
†requesting	2b
†requests	3b
*require	2a
†required	1b
†requirements	1b
†requires	3b
*reserve	3a
*resolution	3b
*respect	2a
†respectfully	2b
*response	2a
*responsibility	2b
*responsible	3a
*rest	1a
*result	1b
†results	2a
*retail	2b
*retain	2b
*return	1a
†returned	1a
†returning	1a
†returns	3b
*reverse	3b
*review	2b
revised	3b
*rich	3a
*rid	3b
*ride	2a
†riding	2b
*right	1a
†rights	3a
*ring	2b
†rings	3b
*rip	3b
*rise	3b
*risk	3a
*river	2a
*road	1b
†roads	2b
*rock	3b
*roll	3b
*roof	3b
*room	1a
roommate	3b
†rooms	2b
*rose	3b
*rough	2b
*round	2a
*route	3a
*row	3a
*rub	3a
*rubber	3b
*rug	2b
*rule	2a
†rules	3a
*run	1a
†running	1b
†runs	3b
*rush	2a
†rushed	3b
*sacrifice	3b
*sad	2b
*safe	2a
†safely	3a
*said	1a
*sake	2b
*salary	2a
*sale	1a
†sales	1b

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*salesman	2b
salesmen	3b
*same	1a
*sample	1b
†samples	2a
*sat	2b
*satisfaction	2a
†satisfactorily	2b
*satisfactory	1a
†satisfied	2a
*satisfy	2b
*Saturday	1a
*save	1b
†saved	3a
†saving	2b
*saw	1a
*say	1a
†saying	1b
†says	1b
*scale	3b
*scarce	3b
†scarcely	3a
*scene	3b
*schedule	2b
*scheme	3b
*school	1a
†schools	2a
*science	2b
*score	3b
*sea	2b
*search	3b
*season	1b
*seat	2b
*second	1a
†seconded	2b
*secret	3a
*secretary	1b
*section	2a
†sections	3a
*secure	1b
†secured	2b
†securing	2b
*security	3b
*see	1a
*seed	3b
†seeing	2a
*seem	1a
†seemed	1b
†seems	1a
*seen	1b
*seldom	3a
*select	3b
†selected	2b
*selection	2b
*self	2b
*sell	1b
†selling	2a
semester	2b
*send	1a
†sending	1a
†sends	3b
*senior	2b
*sense	2a
*sensible	3b
*sent	1a
*sentence	3b
*separate	1b
*September	1b
*series	2b
*serious	2a
†seriously	2b
*sermon	3b
*servant	3b
*serve	1b
†served	2b
*service	1a
†services	2b
†serving	2b
*session	3a
*set	1a
†sets	2b
†setting	3b
*settle	2b
†settled	2a
*settlement	1b
*seven	1b
*seventy	3b
*several	1a
*severe	3b
*sew	1b
†sewing	3a
*shade	3b
*shall	1a
*shape	2a
*share	2a
*she	1a
*sheet	1b
†sheets	2b
*ship	1b
*shipment	1a
†shipments	1b
†shipped	1a
†shipping	1b
†ships	3b
*shock	3b
*shoe	3a
†shoes	2b
*shop	2a
*short	1a
*shortage	2b
†shortly	2b
*should	1a
*show	1a
†showed	2b
†showing	1b
†shown	1b
†shows	2a
*shut	3b
*sick	1b
*sickness	3a
*side	1b
†sides	3a
*sight	2a
*sign	1b
*signature	2b
†signed	1b
*silence	3a
*silent	3a
*silk	2b
*silly	3b
*silver	3a
*similar	1b
*simple	2b
†simply	2a
*since	1a
*sincere	3a
†sincerely	1a
*sing	3a

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

†singing	3a
*single	2a
*sir	1a
*sister	1b
†sisters	3a
*sit	1b
†sitting	2b
*situation	1b
*six	1a
*sixteen	3b
*sixth	3b
*sixty	2b
*size	1a
†sizes	2a
*sketch	3a
*skirt	2b
*sleep	1b
*sleepy	3a
*slight	2b
†slightly	3b
*slip	2b
*slow	2b
*small	1a
†smaller	3a
*smile	3b
*smoke	3b
*snow	2a
*so	1a
*social	2a
society	2a
*soft	3b
*soil	3b
*sold	1b
†soldiers	3b
*solid	3b
*some	1a
*somebody	2b
*somehow	3b
*someone	2a
*something	1a
*sometime	1b
†sometimes	1b
*somewhat	2a
*somewhere	2b
*son	2a
*song	2b
*soon	1a
†sooner	2a
*sore	3a
*sorrow	3b
*sorry	1a
*sort	1b
*soul	2b
*sound	2a
†sounds	2b
*source	3b
*south	2a
*southern	3a
*space	2a
*spare	2b
*speak	1b
†speaking	2b
*special	1a
specifications	3b
†specified	3a
*speech	2b
*spell	3a
*spend	1b
†spending	3b
*spent	1b
*spirit	2a
†spirits	3b
*spite	3a
*splendid	2a
*spoke	2a
*spoken	3b
*sport	3a
*spot	3b
*spread	3b
*spring	1b
*square	3a
*stage	3a
*stamp	2b
†stamped	2b
†stamps	2b
*stand	1b
*standard	1b
†standing	2a
†stands	2b
*start	1b
†started	1b
†starting	2b
*state	1a
†stated	1b
*statement	1a
†statements	2a
†states	1b
†stating	2a
*station	1b
*stationery	3a
*stay	1a
†stayed	2a
†staying	2b
*steady	3b
*steam	3b
*steel	2b
*step	2b
†steps	3a
*stick	3a
*stiff	3b
*still	1a
*stock	1a
*stone	3a
*stood	3a
*stop	1b
†stopped	2a
*storage	3a
*store	1b
†stores	2b
†stories	3a
*storm	3a
*story	1b
*stove	3a
*straight	2a
*strange	2a
*street	1b
†streets	3b
*strength	2b
†strictly	3b
*strike	3a
*strong	1b
†stronger	3b
†strongly	3b
*struck	3a
*student	2b
†students	2a
*studied	3b
†studies	3a

*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*study	1b
†studying	2a
*stuff	2b
*style	1b
*subject	1a
†subjects	2b
*submit	2b
†submitted	2b
*subscription	3a
*substitute	3a
*succeed	3b
†succeeded	3b
*success	1b
*successful	2a
*such	1a
*sudden	3b
†suddenly	3b
*suffer	3a
†suffered	3a
†suffering	3b
*sufficient	2a
†sufficiently	3b
*sugar	2b
*suggest	1b
†suggested	2a
*suggestion	2a
†suggestions	2a
*suit	1b
*suitable	2b
†suits	3a
*sum	2b
*summer	1a
*sun	2a
*Sunday	1a
*sunshine	3b
*superintendent	2a
*superior	3a
*supper	2a
†supplied	3a
†supplies	2b
*supply	1a
*support	2b
*suppose	1a
†supposed	2a
*supreme	3b
*sure	1a
†surely	1a
*surprise	2a
†surprised	1b
*suspect	3b
*sweater	3a
*sweet	1b
*sweetheart	2b
*swell	3a
†swimming	3a
*sympathy	2b
*system	2a
*table	2a
*take	1a
†taken	1a
†takes	2a
†taking	1a
*talk	1a
†talked	1b
†talking	2a
†talks	3b
*tan	3a
*taste	3a
*taught	3a
*tax	2b
†taxes	3a
*tea	2b
*teach	1b
*teacher	1b
†teachers	1b
†teaching	1b
*team	2a
*teeth	3b
*telegram	2a
*telegraph	2b
*telephone	2a
*tell	1a
†telling	2a
†tells	2b
*temporary	3b
*ten	1a
*tender	3b
*tennis	3a
*term	2a
†terms	1b
*terrible	2a
†terribly	2b
*territory	1b
*test	2b
*than	1a
*thank	1a
*thankful	3a
†thanking	1a
†thanks	1b
*Thanksgiving	3b
*that	1a
*that's	3a
*the	1a
*theater	2b
*their	1a
*them	1a
*themselves	2a
*then	1a
*theory	3b
*there	1a
*thereby	3b
*therefore	1a
*these	1a
*they	1a
*thin	3b
*thing	1a
†things	1a
*think	1a
†thinking	1b
†thinks	2a
*third	1b
*thirty	1b
*this	1a
*thorough	3b
†thoroughly	2a
*those	1a
*though	1a
*thought	1a
†thoughts	2b
*thousand	1b
†thousands	3b
*three	1a
*throat	3a
*through	1a
*throughout	2b
*throw	3a
*Thursday	1b
*thus	2a

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*ticket	2b
†tickets	3b
*tie	2b
*till	1b
*time	1a
†times	1b
*tip	3b
*tire	3a
†tired	1b
*title	3a
*to	1a
*to-day	1a
*together	1a
*told	1a
*to-morrow	1b
*ton	2a
*to-night	1b
*too	1a
*took	1a
*top	2a
*total	1b
*touch	1b
*toward	2a
†towards	2b
*town	1a
†towns	3a
*toy	3b
*trace	3a
†tracer	3a
*track	3a
*trade	2a
*traffic	3a
*train	1b
†training	2a
*transaction	3a
*transfer	2b
†transferred	3a
*transit	3a
*transportation	2a
*travel	3a
†traveling	3a
*treasurer	3b
*treat	3a
†treated	3a
*treatment	2b
*tree	3a
†trees	2b
*trial	2b
*tried	1b
*trip	1b
*trouble	1a
†troubles	3b
*truck	3a
*true	1b
†truly	1a
*trunk	3b
*trust	1a
†trusting	1b
*truth	2a
*try	1a
†trying	1b
*Tuesday	1b
*turn	1b
†turned	1b
†turning	3a
*twelve	2a
*twenty	1b
twenty-five	3b
*twice	2a
*two	1a
*type	2a
*unable	1a
*uncle	2a
*under	1a
*understand	1a
†understanding	1b
*understood	2b
†undoubtedly	2a
*unfortunate	3b
†unfortunately	3b
*union	2a
*universal	3b
*university	1b
*unless	1b
*unnecessary	3a
*unpaid	3a
*until	1a
*unusual	2b
*up	1a
*upon	1a
*upper	3a
*urge	3b
*us	1a
†use	1a
†used	1a
*useful	2b
*useless	3a
†using	1b
*usual	1b
†usually	2a
*vacation	1b
*vain	3b
*valley	3a
*valuable	2b
*value	1a
†valued	2a
*variety	3a
*various	1b
*very	1a
*vicinity	3b
*view	1b
†views	3a
*visit	1b
†visited	2b
†visiting	2b
*visitor	3b
†visitors	3b
*voice	2b
*volume	2a
†volumes	3b
*vote	2b
†voted	3b
†wages	3b
*waist	3a
*wait	1b
†waited	3a
†waiting	1b
*walk	1b
†walked	3a
†walking	2b
*wall	3a
*want	1a
†wanted	1a
†wanting	2b
†wants	2a
*war	1a
*warehouse	3a
*warm	1b

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

*warrant	3a
*was	1a
*wash	2b
†washed	3b
†washing	3a
*wasn't	2a
*waste	1a
*watch	2a
†watching	3b
*water	1b
*way	1a
†ways	2b
*we	1a
*weak	2b
*wear	2a
†wearing	3a
*weary	3a
*weather	1a
*wed	3a
*wedding	2b
*Wednesday	1b
*week	1a
week-end	3b
*weekly	3b
†weeks	1a
*weigh	3b
*weight	2a
*welcome	2a
*well	1a
*went	1a
*were	1a
*west	2a
*western	2a
*wet	2a
*what	1a
*whatever	1b
*wheel	3b
*when	1a
*whenever	2a
*where	1a
*whereas	3a
*wherein	3b
*wherever	3a
*whether	1a
*which	1a
*while	1a
*white	1b
*who	1a
*whole	1a
*wholesale	3b
*wholly	3b
*whom	1b
*whose	2a
*why	1a
*wide	2b
*wife	1b
*wild	2a
*will	1a
*willing	1b
*win	1b
*wind	2a
*window	2a
†windows	2b
*winter	1b
*wire	1b
†wired	2b
*wise	2b
*wish	1a
†wished	2a
†wishes	1b
†wishing	2a
*with	1a
*within	1a
*without	1a
*woman	1b
*women	1b
*won	2b
*wonder	1b
†wondered	3a
*wonderful	1b
†wondering	2a
*won't	1b
*wood	3a
†woods	3b
*wool	3b
*word	1b
†words	1b
*wore	3b
*work	1a
†worked	2a
†working	1b
†works	2a
*world	1a
*worn	3a
†worried	2b
*worry	2a
*worse	2a
*worst	2b
*worth	1b
*worthy	2b
*would	1a
*wouldn't	2a
*write	1a
*writer	1b
†writes	3b
†writing	1a
*written	1a
*wrong	1b
*wrote	1a
*yard	2a
†yards	2b
*year	1a
year's	3a
†years	1a
*yellow	2b
*yes	1a
*yesterday	1a
*yet	1a
*you	1a
*you'll	3a
*young	1a
†younger	3b
*your	1a
*yours	1a
*yourself	1b
*youth	3a

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*Found also in Thorndike list. †Not reported by Thorndike, but can be built up from his list. 1a, found in first half of first thousand; 2b, found in second half of second thousand.

What Words Should Be Taught in a Given Grade?

There is a difference of opinion as to the number of words which should be included in the course of study in spelling for the elementary school. Very few, however, would recommend less than 3000 words. This list of 3009 words will, therefore, afford a minimum basis for additional research in grading the course of study in spelling. At the present time there are available several types of data which must be taken into consideration in determining in what grade a given word should be taught. For some of these types of data the research results are adequate for all practical purposes. Below follows a brief inventory of the various types of data which must be taken into consideration in grading the course of study in spelling:

1. *Vocabulary of writing in life outside the school*—The data now in existence seem to be reliable for all practical purposes. They are based on a sufficient number of words. They are adequately distributed geographically, all parts of the United States being represented. They represent a reasonable balance among every common type of adult writing. They provide a measure by which the quality of each word may be estimated. They provide, to a considerable degree, a measure of the permanency of each word in point of time. They provide a measure of those words which are most crucial when missed in writing.

Obviously words most frequently used must be taught at some time before the child is likely to drop out of school. Other things being equal, the more frequently a word is used the earlier it ought to come in the course of study.

2. *The writing of children in and out of school*—The data from various investigations of children's themes are helpful but have certain limitations. The various investigations of children's themes have not produced results which would agree as fully as one would expect. There is evidence from investigations such as those by Mrs. Sarah G. McKee, as well as from internal evidence from the investigations themselves, that we need additional data regarding the words which children use or need in connection with the writing which they do in a given year. There is special need of a carefully controlled investigation of the writing done by children in connection with a proper course of study in composition, as well as that done in connection with a proper course of study in other subjects. In addition, it is very desirable that an extensive count be made of the words in children's letters.

3. *The spoken vocabulary of young children*—The investigations of children's vocabularies by Mrs. Ernest Horn, by Nadora Smith, and by others, afford data which are very useful in determining what words should be taught in the first three or four grades, since the child's natural spontaneous spoken vocabulary is probably the best measure of what he will use when unhampered by difficulties in writing, spelling, and punctuation.

4. *Difficulty of spelling*—There are now adequate data regarding the spelling difficulty of all common words in each grade. The spelling accuracy for most of the 3009 words in this list can be found in the Iowa Spelling Scales prepared by Dr. E. J. Ashbaugh.

5. *Correlation with reading*—The data from the various studies of the words most commonly found in primers, first readers, second readers, and third readers, are valuable in determining the degree to which correlation between reading and spelling may be serviceable in a given grade. However, such counts as we now have are for readers which were in common use several years ago. A new count needs to be made for the readers most commonly used in each grade at the present time. The usefulness of a word in general reading is of some value in determining the grading of the words in the course of study in spelling. Words frequently needed in reading as well as in writing, other things being equal, should be put in the early grades. The data on the vocabulary of general reading is to be found in Thorndike, *The Teachers Word Book*. It is interesting to note, in the preceding list, the overlap between the vocabulary of reading and the vocabulary of writing.

Section IV. Suggested Problems for Further Research

The following problems in addition to those previously stated or suggested constitute a partial list of the outstanding investigations which the committee feel need to be pursued in the immediate future. It is hoped that research students interested in spelling will add to this list as they deem it necessary.

1. A more extensive study should be made of the writing vocabulary used by school children in and out of school. The present studies are either inaccurate or too limited.

2. More intensive investigations are needed on the causes of misspelling and the relative frequency of each cause.

3. Additional investigations need to be made to determine the relative efficiency of different methods of teaching spelling.

4. For purposes other than spelling a count needs to be made in which grammatical and meaning distinctions are recorded. This is of basic importance for both reading and composition. It is also of great importance in comparing the vocabulary in English with that in foreign languages.

5. The penalties incurred for misspellings in letters of application make it very important to discover the commonest words used in each of the important types of such letters. The data given in this report constitute but a beginning of the solution of this problem.

6. The vocabulary of each of the chief classes of business need further investigation. While the counts in the present investigation are sufficiently extended (26 classes of business, and 1,648,000 running words) to afford the basis for determining a general business vocabulary, the counts for each business are not large enough in most cases, to show in a reliable way the vocabulary for that business. A large count for each main class of business would afford a basis for special vocational lists.

7. A more adequate count is needed of the vocabulary of letters of children at different ages.

8. A more adequate count of the words in letters of past generations. This count would make it possible to show how much the vocabulary of

letters changes from generation to generation, and would give valuable data to show what words seem to be permanent in value.

9. The vocabulary of formal notes, invitations, acceptances, and regrets. These are represented very inadequately in the present investigations.

10. Possibly, the vocabulary of papers such as are prepared to be read before women's clubs. Although these papers are often little more than paraphrases upon books dealing with the subjects upon which the papers are written, they are not infrequently passed from club to club, or at least are read by individuals other than the one who prepared the paper. It is therefore important that such papers contain no spelling errors.

11. The vocabulary of telegrams. It seems likely that no words would be found in telegrams which have not been found in correspondence. On the other hand, it is possible that the condensed nature of this form of communication necessitates the use of certain words not commonly used in letters. Perhaps the Western Union can ultimately be induced to make this study through its own employees. If not, it may be possible to collect telegrams from a large number of individuals.

12. The vocabulary of memoranda, especially where the material written is to be read by others.

13. A comparison of the writing vocabularies of men and women. As a result of their investigations, Cook and O'Shea make the following statement: "It is predicted that adjustment of elementary school courses to sex needs will sooner or later cause some differentiation in spelling work required of boys and girls." It would be worthwhile to make a more extended investigation in order to discover what justification, if any, there is in this conclusion.

14. The vocabulary of sales slips. This investigation should include sales slips from the leading types of business.

15. The vocabulary of speaking should also be more adequately measured. We have fairly satisfactory counts for children of five years old, but the data for older children and adults are meager.

16. A great many studies are also necessary to interpret and organize such data as are embodied in the present list of 10,000 words and in the Thorndike list. For example, one such study now nearing completion is focalized upon words of the present investigations which end in "able" or "ible." Counts have been made of the number of words with each ending, as well as the total frequency of words with each ending. An experiment has been completed to show the degree to which the endings are confused, the chief types of error, and the principal sources of error.

17. Another study has for its purpose determination of the exact nature of vocabulary differences, if any, among different localities in the United States.

18. Another investigation is planned to discover in what way the vocabulary of gifted writers differs from that of the ordinary person, and to determine how the vocabulary of gifted writers may be used as a measure of good usage.

CHAPTER VII

ARITHMETIC

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Outline of Report

I. Suggestive material for committees engaged in revising elementary arithmetic courses:
   - A. Introductory statement
   - B. Contributions of research to the solution of curriculum problems in arithmetic
   - C. Procedure in curriculum revision
   - D. General statements offered as guides in revision of arithmetic curriculum
   - E. Suggestive objectives and processes for emphasis in the different grades

II. Types of material, procedures, and researches supporting point of view and program presented above
   - A. Illustrative material and pupil activities aiding in realization of primary arithmetic objectives
   - B. Activities in which number concepts are involved
   - C. Activities in fifth and sixth grade arithmetic as reported from Lincoln, Nebraska
   - D. Investments—One topic studied by eighth grade arithmetic class
   - E. Special contributions in the field of research

Suggestive Material for Committees Engaged in Revising Elementary Arithmetic Courses

Introductory Statement—The aims of the Arithmetic Committee have been: first, to summarize the conclusions of research studies in arithmetic presented in the Third Yearbook of the Department of Superintendence;

second, to carry forward these conclusions into a definite scheme of aims, objectives, and details of arithmetic work for elementary grades; and third, to make available the results of new research contributions.[1]

Contributions of Research to the Solution of Curriculum Problems in Arithmetic[2]

Chapter III of the Third Yearbook of the Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, asks these questions concerning arithmetic:

1. When should formal arithmetic begin?
2. What are the socially useful processes?
3. According to what criteria should drill be organized?
4. What is the best procedure for building up ability to handle concrete or reasoning problems?
5. What has experimental education contributed?
6. What is the method of curriculum determination?

None of these questions can be answered with finality, but there is some scientific evidence on each of them.

Those in charge of curriculum revision in arithmetic in any community should carefully study Chapter III of the Third Yearbook. In many cases it will be found desirable to consult the original studies reported in this chapter. The following is a brief summary of the research studies which it reviews.

1. *When should formal arithmetic begin?*

The term "formal arithmetic," as here defined, means formal drill work and a definite attempt to teach for automatic reproduction the number combinations in the fundamental processes, such as simple fractions. Since the purpose of drill is to fix by repetition something previously comprehended, it is evident that drill should follow, not precede adequate experience and understanding. Moreover, there should be on the part of the child before he begins formal repetition a real feeling of need and clear vision of use and application—in short, there should be complete motivation.

Modern psychology demands that in the teaching of arithmetic as well as other subjects there should be, on the part of the child, a real feeling of need and clear vision of use and application—in short there should be as complete motivation as possible. In other words, arithmetic should be taught when a child has need for it and when he has the proper background of experience to profit by it.

While the available data relative to the question, when shall formal arithmetic begin, are incomplete, they point to the desirability of more careful attention to reading ability and the entire omission of formal number work, except for counting, from the first grade. In other words, from the small amount of available data, one would draw the tentative conclusion that the time usually spent on formal number work in the first grade might, perhaps, better be spent in developing comprehension--ability in silent reading, and an experience basis for number work. The inference is that with this ability developed, children who do not begin formal arithmetic until sometime in the second or at the beginning of the third grade will at the end of the third grade not be handicapped in competition with children who have had formal number work regularly during the first and second grades.

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[1] The 1926 Arithmetic Committee of the Department of Superintendence has been aided by the former Committee on Arithmetic Revision of the National Education Association. In fact the unity of the work of the latter committee has been preserved through the personnel of the new committee and through continued interest in the field of research.

[2] Review of Research Studies in the Third Yearbook of the Department of Superintendence.

2. *What are the socially useful processes?*—The actual analysis of usage has become the basis for inclusion of processes found useful, or the exclusion of processes not used.

The findings from the research studies reported in the Third Yearbook point strongly to the following conclusions: (1) Experience must in all cases precede formal work in calculating. There is little or no point to having children attempt to solve problems when the setting of the problems is entirely unknown to them. It would appear that manipulation of figures relative to certain problems might well be omitted until experience had brought to the child certain informational concepts and the general understanding of business situations. (2) Manipulative or calculating skill required of the average citizen in daily life is relatively small and not a matter of momentary occurrence to even the busiest of adults. (3) Many processes long retained in the textbooks have practically zero value.

According to the 1925 arithmetic report, "It is safe to say that most superintendents of schools today would agree to the complete elimination of the following processes:

Compound numbers, addition, subtraction, multiplication, division.
Greatest common divisor and least common multiple beyond the power of inspection.
Long confusing problems in common fractions.
Complex and compound fractions.
Reductions of denominate numbers.
Cases two and three in percentage.
Annual interest.
Compound interest, except savings.
Partial payments.
True discount.
Proportion.
Ratio beyond the ability of fractions to satisfy.
Partnership with time.
Longitude and time.
Exchange, domestic and foreign.
Apothecaries' weight.
Troy weight.
Table of folding paper, surveyor's table, table of foreign money.
Much of mensuration — trapezoid, trapezium, polygons, frustrums, spheres.
Cube root—The metric system.

"The curriculum in arithmetic should make no provision for formal drill on the above processes. This does not preclude some 'informational' attention to them, or some special attention whenever one of them is involved in a 'life situation' studied in detail by the pupils."

As to what should take the place of this material in the arithmetic course of study for which there seems to be little use at present, there has not been sufficient research to give a definite answer, but the present tendency is toward the use of motivated "life situations" for building up the child's number concepts.

For this work teachers are using such life situations as the school grocery store, buying a lot and building a residence, planning a savings scheme for a college education, organizing a stock company and selling stocks and bonds, budgeting the family money, the annual cost of an automobile in upkeep and depreciation, taking out life insurance, the marks of a sound investment, and many others, simple or complex according to grade and ability of group. The purpose of this work is to give the child a working understanding of useful applications of number concepts in modern life. This work within the schoolroom should be supplemented by actual experience outside the schools, such as shopping for mother, managing a vegetable garden project for profit, handling the business of a paper route, working for wages, keeping books on money received and spent, maintaining a savings account, and conducting a school-community fair.

Need for drill in the fundamental processes—Multiplication, addition, subtraction division, and fractions constituted 90.6 percent of all the 14,583 problems distributed among different persons representing 155 different occupations as reported by G. M. Wilson in his *Survey of the Social and Business Use of Arithmetic.* This same study showed that 85 percent of all problems reported involved the use of money in either the buying or selling of goods.

In the problems of the above study involving addition, only two and one-half percent of all the problems had more than four places in the largest addend. Almost all of the multiplication problems had either one or two-place numbers in the multiplier. In division 39.6 percent of all the problems had one number in the divisor; 43.4 percent had two-place numbers in the divisor. The most commonly used fractions had denominators of halves, thirds, fourths, fifths, and eighths.

These findings are more or less in agreement with those of a number of similar studies. For example: Carl T. Wise in his *Survey of Arithmetical Problems Arising in Various Occupations* found of 7,345 problems of adults, gathered from the states of Texas, Iowa, Illinois, Wisconsin, California, and Missouri, 85 percent of all problems classified involved only the four fundamental operations or combinations of fundamental operations. Approximately 94 percent of all fractions which occurred were: 1/2, 1/3, 2/3, 1/4, 3/4, 1/5, and 1/8.

How difficult should examples be in the elementary grades?—Before attempting to answer this question, it is well to distinguish clearly the different kinds of arithmetic. There are two general divisions:

1. General arithmetic, or that so common that everyone needs to master it—often called "consumer's arithmetic."

2. Vocational arithmetic, or that needed only by those engaged in particular vocations.

With reference to the latter, very little is yet known. Doubtless the needs of many vocations are covered by a mastery of general arithmetic, but the specific needs of more complicated vocational figuring are as yet uncharted.

In each class of arithmetic, two subdivisions are to be noted: (a) symbol, figure, or computational arithmetic, and (b) informational arithmetic. It is well to note clearly the distinction indicated by these sub-classes. Computational arithmetic is needed when figuring is to be done. Adding items to secure the total, figuring interest on a note, and the like are computational situations. Informational arithmetic does not involve figuring nor computing, but understanding of number concepts so that reading matter or business situations involving number may be clearly comprehended.

With the distinction between computational and informational arithmetic understood, it will be profitable to note the degree of difficulty indicated by the various studies made with reference to at least a few of the processes.

Degree of difficulty of addition problems—The typical addition example for the adult is the addition resulting from the purchase of two or three items at a grocery store. The amount for each item is usually less than one dollar. Therefore, we note for thorough drill and high speed and accuracy one, two, and three-place examples, with two, three, four, and even five addends, for occasional drill and without speed requirements, there should be attention to larger examples—even four, five, and occasionally six-place numbers, with addends running up to eight, ten, or occasionally as many as twenty; for informational attention no particular limit, but without any attempt at drill as such.

Degree of difficulty of subtraction problems—Research findings suggest thorough drill on subtraction of one, two, three, and four-place numbers with major emphasis upon two and three-place numbers; occasional drill upon five and six-place numbers; the informational usage for subtraction is relatively small.

Degree of difficulty of multiplication problems—Research findings suggest thorough drill on examples with one and two-place multipliers; occasional drill with three and even four-place multipliers; no limit to informational or reading knowledge, involving multiplication. In drill work the multiplicand should seldom exceed three or four places.

Degree of difficulty of division problems—Ninety-five percent of all division is covered by one, two, and three-place divisors. Thorough drill on the same; occasional drill, very occasional, with four-place divisors; informational attention as needed in actual situations.

Degree of difficulty of fractions—Confine thorough drill work to halves, thirds, fourths, fifths, sixths, eighths, tenths, and twelfths; occasional attention to sixteenths, twenty-fourths, or any fraction involved in actual situations. No limit on size of fractions in informational usage, but understanding for reading is all that is required.

United States money and decimals—Little attention should be paid to decimals as such, buying and selling should be involved in fundamental processes from the beginning; hence, United States money should be constantly used from the beginning. Attention to reading knowledge of decimals is suggested.

What shall be taught relative to denominate numbers?—Tables as such are unnecessary. No reductions, either ascending or descending, occur in business situations. Addition, subtraction, multiplication or division of compound numbers are not needed. Secure thorough understanding of common units and measures, such as inch, foot, yard, ounce, pound, dozen, quart, mile. Occasional attention could be given to gross, rod, acre, etc.

Degree of difficulty of percents and percentage—There should be broad reading knowledge and general understanding of percents as they occur in mark-down sales and general reading. The actual study of business situations will call for division of expenses, profits, loans, discounts, etc., and thus is introduced the opportunity for drill work on simple percentage and interest.

3. *According to what criteria should drill be organized?*—According to the arithmetic report of the Third Yearbook, "The trend of evidence is that in the intermediate grades, when drill is confined to processes that are useful and well understood, regular time spent upon systematic drill gives returns unequalled by any other type of procedure. The findings are in favor of systematic drill rather than incidental drill.

"Another finding, on which the evidence is not so satisfactory as one could wish, is that attempts to do number work in the lowest grades, particularly in grades one and two where the processes are so frequently not comprehended by the children, results in the development of errors which become a strong handicap in later work."

Dr. F. B. Knight, in the Third Yearbook, shows the possibility of formulating drill to meet definite specifications, and the necessity of systematic drill if automatic memory results are to be had and permanently maintained. Dr. Knight lays down these eight specifications for drill organization for maintaining acquired skills:

1. Drill should be on the entire process.
2. Drill should come frequently and in small amounts.
3. Each drill unit should be a mixed drill.
4. Drills should have time limits.
5. Drills should have accuracy standards.
6. Examples in a unit of drill should be in the order of difficulty.
7. Drill units should include verbal problems.
8. Drills should facilitate diagnosis.

4. *What is the best procedure for building up ability to handle concrete or reasoning problems?*—According to the Third Yearbook, "Isolated reasoning problems are not meeting the demands of life as it is. Under life conditions, problems are solved when the individual is keen as to con-

sequences. Any calculating is a small detail in a larger unified process. The condition is being met in the schools by building up pupil experience, by confining number work in the lower grades to actual needs, and by providing artificial life situations for the intermediate and upper grades such as conducting a cafeteria, managing a department store sale, or working out large unit problems in any form. This whole matter of reasoning is connected with the problem of larger units of instruction properly motivated and the building up of pupil experience."

Among the causes of pupils' failure or inability to reason correctly, research up to the present has discovered the following: (1) Lack of general ability in silent reading, (2) lack of familiarity with technical terms in arithmetic, (3) carelessness in reading, (4) lack of experiences necessary to understand the "setting of the problem," (5) inadequate skill in computing, (6) lack of knowledge of such essential facts as tables of weights and measures, (7) inability to see the relationships in the problem so as to choose the proper operation, and (8) inability to do reflective thinking.

W. J. Osburn in his study of *Diagnostic and Remedial Treatment for Errors in Arithmetical Reasoning*—After reviewing 30,000 errors made by 6,000 children on the Buckingham Problem Test, Form I, states: "About 60 percent of the wrong answers are due to failure right in the beginning to understand what is to be done."

Tests have been made which show that the ability of pupils to solve arithmetic problems can be materially increased by teaching pupils to analyze textbook problems, by solving problems containing data from actual life situations, by solving problems "without numbers," and by studying the difficult words that appear in textbook problems.

Studies have been made which seem to justify the conclusion that there is a closer relationship between reasoning ability and general intelligence than between reasoning ability and skill in computation. Consequently, the pupils with low intelligence are unlikely, even under the best instruction, to succeed well in arithmetical reasoning. Conversely, pupils with high intelligence are able to reason fairly well without any systematic instruction in problem solving.

5. *What has experimental education to contribute?*—What method of subtraction is most effective? The majority of the studies reported seemed to favor the "additive" method of subtraction rather than the "decomposition" method. However, some found no clear cut difference.

6. *What is the method of curriculum determination?*—From accumulated scientific data and experience, one seems safe in making these tentative statements:

The survey method is the first essential in gathering useful material with reference to processes to use and in convincing teacher, pupil, and patron that processes for which the community has no use may be properly omitted from the work in arithmetic. The survey method does carry conviction and even in a small community secures enough data for determining the useful processes.

Definite standards of motivation need to be set up in order that teachers may not proceed with meaningless drill or formal textbook work. This means:

1. The basis in actual experience shall be built up before any kind of formal drill work is organized or assigned.

2. The child sees at every step the use and application of the process or material on which he is working.

3. The work at all times is connected with the personal interests of the children. This is so important that a teacher is justified in omitting drill and other formal work while she takes her class to a cafeteria, to a store, to a station, to a bank, etc., in order to build up experience.

4. The teacher should take time, as necessary, to develop a feeling of need for the work being done, and this feeling of need should be kept strong.

5. Pupil behavior patterns should be utilized by the teacher so that the arithmetic of the classroom fits into what the child wants to do instead of becoming a formal isolated classroom procedure.

Procedure in Curriculum Revision

Procedure in curriculum revision may vary indefinitely as to minor details, but there are certain essentials that should be observed by all.

First: The work should be begun by carefully checking the work of the schools against the needs of the community as shown by a survey of arithmetic usage.

Second: The entire teaching force should be involved cooperatively.

Third: Conclusions should be based upon study and evidence.

Fourth: Those most competent to guide should be involved in leadership and responsibility.

Fifth: As the course of study proceeds, tentative suggestions and experiments should be tried out.

The following brief statement from Superintendent H. H. Stuart of Melrose, Massachusetts, gives the procedure in an actual revision:

The work of curriculum construction in the City of Melrose, Massachusetts, was characterized by the following procedure:

First of all, a questionnaire was sent to all the elementary teachers in the city soliciting opinions on the following questions:

1. Whether or not there is need of a revision of curricula?
2. Should teachers have a part in the work?
3. Should additional help be provided?

The answer to all three of the above questions being almost unanimously in the affirmative, the school department arranged for outside help, and the teachers themselves carried half the expense of such help.

Tuesday afternoon of each week was set aside for the project and the entire group of elementary teachers gathered at a central place to participate in the important preliminary work.

At the outset an expert outlined the entire field of curriculum construction, pointed out the changing conception of curriculum content, and defined the aims in terms of probable future needs in order that the teachers might get satisfactory bearings preliminary to the work which was to follow.

The work was entered upon by the teaching force with enthusiasm and with the apparent intention of turning off a piece of work worthy of their best cooperative effort. The subject which appealed to the group as being most urgently in need of revision was arithmetic.

The school department supplied to each of the school buildings the best current literature on curriculum construction, including approximately twenty-five courses of study in arithmetic which were selected as representing the best from the standpoint of attention to scientific investigation in the field of arithmetic.

While this preliminary work with the entire group was going forward, committees of teachers were at work upon special phases of the subjects. The committee work covered the following points:

1. A School-Pupil Survey Committee gathered problems actually solved by parents during a period of two weeks and analyzed the same.
2. A Vocational Committee undertook to gather data covering the more difficult vocational uses of arithmetic in the community.
3. A Testing Committee administered three standardized tests in arithmetic throughout the city and summarized the results.
4. A Course of Study Analysis Committee analyzed in detail the grade placement of topics and difficulty of processes covered in fifteen of the more progressive courses of study throughout the country.
5. A Life Situations' Committee organized life situations for the course of study and suggested grade placements for each.
6. A Drill Service Committee undertook complete drill services covering the drill work of the fundamental computational processes.

A real effort was made by these committees to attack the program earnestly and to present data based upon actual findings to the entire group.

The grade committees which were formed from the foregoing committees made possible proper articulation between grades. The outside expert guided and advised on all points raised.

The result of this work, which continued throughout the school year 1924-1925, is a course of study in arithmetic made in a more scientific manner. It embodies a drill service, inventory and diagnostic tests with suggestions for remedial drill, progression of difficulties and uniform processes.

General Statements Offered As Guides in Revision of Arithmetic Curriculum

1. *Formal number work as such is not recommended for Kindergarten and Grades I and II*—This does not mean, however, that no provision is made for number experiences for these grades. Young children are inter

ested in numbers just as they are interested in language. They get number concepts through their everyday experiences. The number work of these grades has for its major purpose that of developing number concepts through broadening and enriching of the experience of children. Measuring, weighing, counting, buying, and experiences in general with objects in money, are the ways by which the number ideas are developed and made clear and definite. The work of these grades should make clear those things which children do normally with regard to numbers.

2. *In all phases of arithmetic work provision should be made for individual differences*—It is possible to make use of inventory and diagnostic tests; to provide drills for each child with attention directed towards the errors which he makes; to check up the work of each child with respect to his individual needs.

3. *The outlines of a general course of study in arithmetic should be adapted to meet the needs of a given community*—Illustrative work, motivated problems and life situations should come from the experiences of the children and be connected with local community problems and needs.

4. *The committee encourages that procedure which will insure from the beginning a high degree of accuracy in all work, and the avoidance of the habit error*—In order to accomplish this, it is well to call attention to the fact that teaching should proceed slowly enough to insure mastery of the process presented, provide inventory tests, and give careful attention to specific errors.

5. *The committee makes no recommendations with respect to method* in arithmetic, since the function of the committee is to direct attention to the right type of subject matter and its grade placement.

6. *On the basis of research investigations to date, the committee feels warranted in urging less time on arithmetic than that devoted to the subject in practically all school systems throughout the country.*

7. As an administrative and professional problem the new teachers of a given system should have continuous opportunity to learn the underlying principles, the major purposes, and the definite objectives of a given subject, in order that they may understand the specific aims, keep a modern professional viewpoint, and gain greater skill in teaching.

Suggestive Objectives and Processes for Emphasis

Grade I

No formal drill. No formal number period for this grade.
Use number as language as needed. Build up experience and understanding.

Grade II

No formal drill. No formal number period for this grade.
Counting as needed in games and in handling school and home situations.

Making change in home shopping for mother and in play-store at school.
Experience extended.
Measuring of height and weight, and the meaning of common measures as needed in experience—inch, foot, yard, pint, money, and time.
Use of simple numbers through games.
Roman numerals I to XII in telling time.

Grade III

The emphasis in this grade on addition and subtraction.
Addition (primary and decade through 90) and subtraction (up to 9 from 18) mastered. Teaching children to check or prove their own work.
Multiplication to 5 x 5 (31 facts). Simple division involving the digits used in multiplication introduced.
Counting by 1, 2, 5, and 10 to 100.
Reading and writing numbers to 1000.
United States money used.
Fractions, 1/2, 1/3, 2/3, 1/4, 3/4, used and understood—simple addition and subtraction objectively.
Measuring and weighing in units as mentioned in second grade with the pound, quart, gallon, or new units.
Life situations in buying.
Use of money with decimal point.

Grade IV

The emphasis in this grade on multiplication.
Extend addition and subtraction drills, motivated in terms of the use to which the number may be put, as well as the standard of efficiency to which the pupil may attain.
Multiplication to 9 x 9 and by 2 or 3 numbers. Kinds of numbers to be used to be those of practical value in life situations. Teaching children to check or prove their own work.
Simple addition and subtraction of fractions up to denominator 16 (and other work as needed in actual situations).
Measures—square inch and foot only, except as needed in life situations where the measures, square rod and acre, would be used.
Division (short method). Kinds of numbers to be used as divisors should be those of practical value in life situations.

Grade V

The emphasis in this grade on division. Instruction extending over a series of lessons, difficulties presented one at a time. Problems used to consist of not more than three digits in the divisor.
Teaching children to check or prove their own work.

Addition and subtraction. Testing and planning of regular drill for those needing it. *Accuracy* the standard.

Multiplication. Testing and planning of drills as for addition and subtraction.

Fractions—addition, subtraction, multiplication, division. Denominators 2, 3, 4, 5, 6, 10, 12, 16. Others as needed in actual situations.

United States money—any process as needed in actual situations.

Measures. Area to be taught as the new measure. Others to be used as needed. Common measures developed through use. Tables understood and left for reference, but not committed.

Graphs, simple, bar or line, for pupil records.

Grade VI

The emphasis in this grade on accuracy in the four fundamental processes and simple fractions and application of percentage and interest to simple business situations.

Decimals, developed from United States money; limit to 3 places; beyond, only informational. Division by whole numbers only.

Beginnings in interest and percentage.

Accounts, simple business. The fundamental processes motivated through these as a means.

Denominate numbers—only the useful measures. Tables and measures that are in common use for informational reference, with local or state regulations and standards of measures.

Grade VII

The emphasis in grades seven and eight on the more direct application of the fundamental processes of percentage and interest to banking, business, and experience.

Investments.

Specific drill in fundamentals for pupils not up to reasonable speed and accuracy. Proving and checking.

Algebraic expressions as introduced in the solution of problems.

Systematic work in algebra optional.

Grade VIII

Application of saving and investing to problem work.

Simple problems in insurance, taxes, mortgages, as applied to the home and business.

Interpretations of all numerical quantities as related to civic and public questions, e. g., taxes, insurance, administration of public moneys. Much informational work correlated with civics.

Optional: intuitive geometry, vocational arithmetic, simple problems in algebra.

Accuracy in the fundamentals—methods of checking, continued drill work for the "hospital" group.

Typical Life Situations Which Involve Numerical Values and the Beginnings of Arithmetical Processes[1]

Grade I

Birthday calendar, games, building with blocks, dressing dolls, and counting. (See special material under Grade I, page 193.)

Grade II

Buying groceries for mother, games, telling time, birthday calendar, telephone number, house numbers, automobile numbers, etc.

Grade III

School milk, savings account, games with teams, telling time, buying for mother—making change to $2.00, school store, reading thermometer, expense account, weighing and measuring.

Grade IV

Home garden, does it pay?, school garden, measuring, etc., making bird houses (the economic value of birds), helping with attendance, class collections (flowers for sick, etc.), automobile plates, measuring distance for eye and ear tests, measuring distance for games, regulating speed on victrola.

Grade V

Furniture for a six-room house, buying the home coal for the year, money spent for milk; savings, helping newsboys with accounts, earning money—actual reports, attendance and thermometer reading, books for library—keeping full record of circulation, checking drawing and manual training materials, spelling papers, school shopping, graphs of progress in standard tests.

Grade VI

Family budget—also pupil's budget, buying groceries to best advantage, corn, in field and can; why the difference?, distance: time, speed in making a trip, school banking, milk buying.

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[1] This suggested list is given for the purpose of indicating the way any community may select and use material for motivating arithmetic.

Grade VII

When can one afford an automobile?, school supplies for building and rooms, local tax rates and distribution of money, percentages in baseball scores, school and out-of-school savings, what I need to know to handle a bank account.

Grade VIII

Buying lot and building house, should an itinerant buy or rent?, expense of remodeling an old house, meter reading and checking at home and school, cost of strikes, organize to study any business situation appealing to class and having community basis, marks of the get-rich-quick salesman and the bad investment.

Types of Material, Procedure, and Researches Supporting Point of View and Program Presented Above

Illustrative Material and Pupil Activities Aiding in the Realization of Primary Arithmetic Objectives [1]

Statement of trends in practice—The practice in the primary grades is to stress the development of number concepts by enriching the experiences of children, rather than the stressing of drill or formal instruction. With development as the larger purpose, the accepted practice is to break up classes into groups through similarity of number needs, or to work with individual children. While one group or individual works with a teacher, the others work independently on some phase of number needed for individual progress. The actual time each group works with the teacher depends upon the needs of the child and the plans of the teacher. The division of time varies with the teacher's purpose and type of work planned.

Kindergarten—Suggested Activities.

1. Counting for the fun of it:

By ones: Number of things in the room: doors, windows, tables, chairs, objects in pictures; number of pieces of paper and crayon, of scissors, of blocks in a building, of beads in a necklace, of plates and napkins needed for lunch, of children present every day, of days in a week, and of days until birthdays or holidays.

By twos: Number of children in line for two-line game and number of materials counted by twos: chairs, blocks, etc.

By fives: Children at tables (five to a table), nickels on banking day, and money of storekeeper.

By tens: Money in 10 cent store, money admissions, and children at tables.

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[1] Studies made and submitted by Bertha M. Barwis, assistant to Director of Elementary Education, Trenton Public Schools, Trenton, New Jersey.

2. Games involving number such as:
    a. Circle games: various sized circles 4, 8, 12; mulberry bush, ring around a rosie.
    b. Score games: individual scores, hopscotch, quoits, ring toss, ball games; bouncing, throwing in basket, balls in ring, and balls in line.
    c. Team scores: ten pins and races.
    d. Matching games: blocks, teacher puts certain number blocks on table and children put same number blocks on table. Marks on board, children's chairs and books may be used in the same way.
    e. Counting: number of pennies or nickels in playing store, steps, ball games, and balls in ring.
3. Constructions:
    a. Wholes, halves, quarters.
       Materials: blocks, paper, lunch, birthday cake.
    b. Foot, yard, or any given measurement.
       Incidental use of ruler and yard stick.
       Build house: 3 blocks long, 4 blocks wide, 6 blocks high.
    c. Square, round.
    d. Comparisons
        Small children in small chairs.
        Small children sit in front.
        Small children use low hooks in wardrobe.
        Different size blocks, paper, balls, houses, furniture, dolls, etc., for different uses.

    NOTE.—Use terms "too long," "too small," "too wide," "too narrow," "so wide," "so long," "larger," "largest," "small," "smaller," "smallest."

4. Recognition of symbols:
    Numbers on face of clock, on houses, on auto licenses, on birthday calendars, on pages of book; numbers used in keeping scores, and numbers printed on toy money.
5. Recognition of number groups (4-6).
    Groups of children at tables, for singing (trios, quartets, etc.), children caught in playing games, such as ten pins, ball games, block games, and group games, dances, races, and tag.

Suggested Activities for Grade I.

1. Counting objects used in play activities. Counting by 1's, 2's, 5's, 10's to 100 may be achieved by:
    a. Arranging of number of objects for games. (Bean bag or ten pins.)
    b. Counting out in games and choosing the number for each side.
    c. Counting number of seats in room and the children absent or present.
    d. Counting money in playing store.
    e. Counting materials distributed: pencils, paper, crayons.
    f. Counting when bouncing ball—(1's), (2's), (5's).

2. Reading numbers through 100 or beyond may be achieved by:
   Calling telephone numbers; finding pages in book; noting day of week on calendar—or year; telling automobile numbers, house numbers, locker numbers; telling prices of articles for sale in store; and telling numbers on clock face.
3. Writing numbers to 100 or in sequence to 100 may be achieved by:
   Making books, numbering pages, making various records, as number of children present; writing street numbers; writing number of times ball was bounced, and writing total money secured on bank day.
4. Addition:
   Competitive games are most valuable in all addition work.
   Adding by 1's and 2's. Thus $\begin{array}{r}1\\1\\\hline 2\end{array}$ $\begin{array}{r}2\\1\\\hline 3\end{array}$ and column addition of 2 orders, without carrying to 24 or more, may be achieved by means of games such as, bean bag, ring toss, ball games, hopscotch, marbles, basket ball, dominoes, relay races, ten pins. Many combinations are learned through the making of forms with fine and industrial art materials.
5. Division:
   Grouping of objects by 2's, 3's, 4's, 5's to 50 or more may be achieved by grouping objects for games, or by keeping materials together in folders, or in the cabinets. In the lunch period the idea of ½ may be made clear by sharing lunch and cutting apple in half.
6. Measures:
   a. Money
      1. Use of money in playing store; buying and selling, and making paper money.
      2. In connection with bank day: different coins brought; amount of money recorded, and making of bank slip.
      3. Every-day use of money: going to the store; and money needed for stamps, books, candy, carfare, pencils, ice cream.

   b. Pint and quart
      1. Purchasing milk in school and for the home;
      2. Playing store.

   c. Pound
      1. Weight chart.
      2. Playing store.

   d. Dozen
      1. Use in connection with store.
   e. Inch, foot, and yard.
      Develop through the use of measurements in industrial art work, in laying out a garden, and measuring textile material.

Suggested Activities for Grade II.

The following is an actual classroom activity in arithmetic, connected with industrial and fine arts activities, which shows practical work as planned by the teacher and carried out under regular classroom conditions.

The Raggedy Ann Toy Shop[1]—On the morning of the first day of the opening of school after the Christmas holidays, many of the children had brought one of their Christmas gifts to school to show to the other children and to the teacher. The gifts were placed in the center of the room and the children gathered about them in order to look them over. The toy which attracted most attention was a Boy Scout drum. This drum stimulated a lively discussion about the musical instruments they had had in kindergarten, and one child ventured the question: "Why don't we have some in first grade?" All the children agreed that they would like to have some instruments in their room, but the problem was how to procure them since they had no money. One child volunteered the information that someone had made a drum of pasteboard for him at home and suggested that the children could make them for their classroom.

The teacher closed the discussion at this point, saying that later they might make some instruments, and called the class for the formal opening of school.

The teacher accompanied the children on the piano in the opening exercises.

At the suggestion of the children, Charles accompanied her on the drum, playing more than one selection and adding to the children's enjoyment of the opening exercises.

Purpose—The teacher saw in this situation an opportunity to make good use of the children's suggestion and their interest. From this situation the teacher chose a lead that would enable her to present a project which would make *real* some number facts that were to be taught in this grade.

The teacher's main purpose was to arouse an interest in arithmetic by correlating it with industrial and fine arts in such a way as to clarify the number facts and to give the children power to make intelligent and accurate use of numbers in their every day life.

The common purpose of teacher and pupils was to have a store where toys made by the children were to be sold. From these common purposes, worthy individual purposes arose daily, making the work meet the needs of the individual in arithmetic and industrial and fine arts. By this purposing the child knew what he had to learn, how he was going to learn it, and when he had achieved.

Procedure—The second day of school, in the conversational period, the teacher asked the children if they remembered John's suggestions as to how to make a drum. The teacher, having in the meantime fully considered the situation and the work which she desired as an outcome, had in mind a store where her purpose would be achieved. She was prepared to guide and direct the children toward this end. She said, "There are 36 children in the class. What could we do with 36 drums, if we made them?" Someone said, "Other instruments could be made," and someone said, "We could sell our drums."

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[1] Reported by: Eliza C. Dabbs, Grade One, Mott School, Trenton, New Jersey.

Then someone contributed the idea of having a "toy shop where the extra instruments could be sold." The children were delighted with this and wished to start a shop at once. Here a discussion arose as to what name should be given to the shop. The names of many local stores were given, but the children wished to have a name for their shop which would be different from all the others.

Before this, however, the class had received the book of Raggedy Ann as a Christmas gift. They were especially fond of the story and talked of Raggedy Ann until she was almost a real personality to them. It was not an unusual thing then to have a child suggest calling it "The Raggedy Ann Toy Shop." This name was favorably received by the class and was adopted for the shop. Discussion arose as to what articles could be made and eventually toys, other than musical instruments, were suggested. A question arose as to whether these toys could be sold for real money. The teacher told the class that they could really be sold for money if the toys were well made. Then the statement that this money could be used to purchase musical instruments was enthusiastically received. Here was provided the opportunity for the children to use number facts as they are used in life, that is, by buying and selling articles in a shop and paying for them with real money.

There were discussions about what articles would be needed for sale. The teacher decided, in some cases, against articles that would not be salable and suggested others which the children accepted as good substitutes.

The pasteboard drum gave the class some practice in construction, which helped in making other objects. Both class and teacher were critical of results and many articles had to be changed or made over before they were considered fit to sell in the shop.

A discussion of the number of articles needed for sale demonstrated the fact that many children would have to duplicate articles made by themselves and by others. After the work was started some of it was carried on in unsupervised periods as well as in the supervised periods.

The number of articles in the following list will indicate the number of times children were required to sell at certain prices. The actual sale in the shop provided sufficient repetition of a process to fix number facts.

List of Articles Made for Raggedy Ann Shop

(Prices being kept within the children's experiences.)

42 tops	2c
31 jumping jacks	3c
26 pin wheels	2c
23 kites	2c
19 paper doll sets	1c
19 vases	5c and 10c
14 drums	3c
9 carts	5c and 3c
9 picture books	5c
9 bean bags	5c
5 marble bags	5c
4 jack bags	5c
4 ring toss	5c
3 rag dolls	5c and 10c
2 beds	5c
2 bureaus	5c
2 puzzles	1c
1 wheel barrow	7c
1 dust cloth	2c
1 cushion	5c
1 tile	3c
1 raffia frame	3c
1 raffia napkin ring	3c

As the work progressed, the children had frequent practice in purchasing articles, using toy money. This gave them repeated experiences and prepared them for the use of real money on the day of the sale.

Their work in arithmetic involved adding by 1's, 2's, 3's and 5's, counting number of jacks and marbles for bags and counting number of price tags needed. Multiplication was taken in the form of addition. The pupils developed increased speed in addition.

The children had opportunities for judging and comparing. In placing prices on various articles they considered values and discriminated in prices. For example, one vase better decorated than another they valued at ten cents, while the others were marked five cents; a larger cart was sold for five cents, while the smaller ones were considered as being only worth three cents. They learned to compare the values of U. S. coins.

They made paper boxes for many of the articles, and, although they did not measure in actual inches or feet, they had to compare size of the boxes with the articles in order to make the boxes the right size.

The emphasis in this project was on arithmetic, but, through the process the children acquired skills in other subjects. For example, frequent opportunities arose for oral language lesson, in the discussions about the kind of store and the name to be given to it, the number and kind of articles to be made, the date when the store would be ready for the sale and finally the arrangement of the store. They learned how to be courteous to clerks and customers, to respect the rights of others in the stores. In trying to produce good products the children learned that clean hands and care in using materials were essential.

The higher objectives of education were prominent in the mind of the teacher during the entire period. The class situations gave the teacher abundant opportunity to make each child conscious of his relation to the group, and led to enthusiastic participation by each individual in the group. These situations gave the child opportunities to adapt himself to others, to be of service to others, and to exercise initiative in real situations.

One thing that can not be measured is the enthusiasm of the children during the progress of the work which covered a period of eight weeks.

Activities in Which Number Concepts Are Involved[1]

KINDERGARTEN

I. *Measurement and comparison:*

- A. Work bench: Sawing boards proper length for building house. Making furniture proper size for use—number of legs needed for table, chair, bed; right length; number of nails to be used.
- B. Building with blocks: "That block is too long." "Two blocks same as long one." "This one just fits." "I need a longer one." "Shorter one needed."
- C. Cutting to proper proportion: Placing horse in barn. Horse small enough to go into large door in barn.
- D. Clay or plasticine: How much needed for objects. "Take half of yours."
- E. Sewing: Dressing dolls: measuring materials—skirt, sleeves, sash, thread to be used, right length. Costumes for dramatic plays, parades, parties. Measuring materials in comparison to height of child.
- F. Selecting: Chairs of proper height to fit child. (Short or tall.) Sheets of paper of correct size for making of book or magazine.

II. *Counting:*

Number of children present and absent. Children in family. Buttons off of coat. Buttons on doll's clothes. Wheels needed for cart. Candles on birthday cake. Passing materials. Responsibility for two rubbers, two mittens. Fish in aquarium. Days in week, vacation, times we come to school each day, keeping daily records. Working in groups—number needed to help build, etc. Playing games—marbles; ball—(number of times to bounce); jump-rope—(number of times able to jump). Rhythm. Playing tea party: setting table—number of napkins, plates, cups, spoons, etc. Pouring tea, full cup, one-half cup. Preparing for kindergarten parties; number of children to come; sandwiches or cookies needed. Playground activities: taking turns on swings—number of swings; turns on slides. Stories: Three bears. Three pigs, etc.

III. *United States Money:*

Buying milk and cookies. Saving pennies. Buying stamps, 1c, 5c, 10c, 25c. Going to store for mother. Playing store.

List of Number Experiences Noted During One Day's Activities in a Kindergarten

I. *Measurement and comparison:* Measured legs for doll's chair, placed them at equal distances, right height for doll. Doll's table made tall enough for doll's chair to slip under. Table made in proportion to other furniture.

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[1] These observations were made and compiled in the public schools of Springfield, Massachusetts, by Miss Rosa Bowker, Principal of William Street School; Mr. Thomas Kenworthy, Principal of Hooker School; Miss Mary Carpenter, Acting Principal of Kensington Avenue School; and the teachers of their respective buildings; under the direction of Miss Mary O. Pottenger, Supervisor of Kindergartens and Grade I - III.

Bed made to fit small doll. Length of legs for furniture measured so as to stand straight. Used ruler as guide for saw. Girls measured paper dolls for dresses. Group made doll's house with blocks for sand table project, measured distance to be covered, estimated how many blocks required. Made trees out of sticks and green paper, used different lengths so that trees would not be the same height.

II. *United States Money:* Lunch money; children asked to tell how much they brought. Stamp money. How much brought.

III. *Counting:* Counted number present; boys, girls. Animal crackers. (Each child helps himself to a given number.) Boys built a barn, counted animals to fill stalls. Each child asked to take two pieces of paper. Five pictures—to choose one. One boy took the "fourth from the end."

GRADE I

I. *Measurement and comparison:*
  A. Building:
    1. Smaller blocks used, building more intricate. Comparison of sizes used. Number used to give proper balance.
    2. Doll house: (a) Construction of measuring and fitting boards for floor and rugs; (b) sawing furniture of proper size; (c) papering walls, paper right width and length; (d) measuring for curtain materials; and (e) pictures for walls—to get them in right proportion.
  B. Sewing: Dressing dolls for doll house. Making mattresses, sheets, blankets, etc.—measure to fit the beds. Costumes for dramatic use.
  C. Knitting—worsted reins; measure length.
  D. Plasticine. Take one-half to make certain object.
  E. Writing and drawing: Comparison of size of letters in blackboard work—making "tall letters." Drawing figures and houses to proportion.
  F. Children compare own height and weight on weighing days.

II. *Counting:*
  A. Playing games: Choosing sides—relay races. Number turns. Keeping score. Tossing balls, bean bags, etc., correct number of times.
  B. Dancing games: Choosing partners. Number required for game. Counting by 2's. Clapping hands correct number of times. Stamping feet correct number of times.
  C. Reading games: (1) Number of word and phrase cards read correctly. Cards of winners counted; and (2) finding correct page in book and number of pages read; number of children in room; number of bottles of milk needed; passing of materials; trip around the building—finding different rooms in building; number of house—address; days of week.

III. *United States Money:*
  A. Saving pennies for different purposes.
  B. Buying saving stamps of different denominations; and making

change for one dime. Change 2 nickels for a dime. Change nickel for five pennies.

C. Playing store—activities growing out of story of fruit vender in "Pathway to Reading." Reading about store in "Happy Children Reader" led to building of store—use of dozen, ½ dozen, in buying bananas, apples, and oranges.

D. Luncheons. Sale of milk—price. Lunch room: soups, sandwiches, cookies, fruit.

E. Illustrations of use of numbers in connection with classroom activities.

1. Buying a Jack O'Lantern. Children saved 11 pennies for a Jack O'Lantern. They went to the store to select one, found that it cost 15c. Danny counted the pennies and said there were not enough. Before any suggestions were made, the clerk said that a smaller pumpkin might be had for 11c. When the children returned to school, they counted and found that four more pennies were needed to make 15c.

2. Buying paint. When building a house, need for paint arose. A group of boys went to the store with fifty cents. Clerk showed size of paint pots. Teacher and boys decided that two small cans would be enough. Price of one can 10c, what would two cans cost? Tommy knew. On the way back to school we learned to count by tens to fifty. One can cost one 10. Two cans cost two 10's or 20c. Three cans would cost 30c. If we spent 20c for paint we saw that we had three 10's or 30c change.

3. Hallowe'en party showing use of numbers.
   a. Situation and purpose: Teacher and children talked about Hallowe'en. Decided to have a party and invite Room 10 as guests.
   b. Planning and executing: Parties were discussed. An invitation to guests must be sent. This one took the form of a Jack O'Lantern, which a child cut out. The sentence "P-l-e-a-s-e c-o-m-e t-o o-u-r p-a-r-t-y," was enclosed.

When the question of refreshments arose, Hallowe'en cakes were the verdict. Where to get them? Go to the store to buy the necessary ingredients. One child asked, "Have we money enough?" Then a trip to the store to buy. The clerk told the price of the necessary articles; flour, sugar, and all the rest were procured for the cakes.

On the way home, a stop was made at another store to buy cloth for the table covering for that need had already been discussed. Philomena later hemmed the tablecloth.

Soon the time for making the cakes arrived. The making of cakes at home was talked about. Now "our" recipe was written on the blackboard as the ingredients were measured and put in the mixing bowl. Many helped stir together the following: 2 cups sugar, ½ cup butter, 2 eggs, 3 cups flour, 2 cups milk, 4 tsp. baking powder, and 1 tsp. vanilla.

Paper cups were counted to put into the cake tins, then each child measured with a tablespoon the amount to put in the paper cups. Children asked how long the cakes would have to stay in the oven. It was a long twenty minutes before the group who went to the lunch room with the teacher to bake, returned with the browned cakes. Even this lot would not be enough for all who would be at the party. Another mixing following the same rule would furnish a little cake for each one.

The next day, two boys went to the store to buy two pounds of confectioners' sugar. On their return the boys told that sugar cost 20c and there was 15c change. Sugar, milk and flavoring were measured for frosting which was spread on each cake. On top of each was placed a black cat or a pumpkin giving a real "Halloweeny" appearance. These had been provided by the teacher, as a surprise. The children wanted to know the cost. The cakes, almost a hundred of them, were carefully put away until time for the party.

In the meantime, square napkins had been fringed and decorated, these with the other Hallowe'en decorations, cloth and cakes were judged to make a very attractive table. That's what "we" thought. It's what the faces of our guests seemed to say, also. The proof of the cake was in the eating, for some even "licked the cup," while others wanted to take it home to brother.

List of Number Experiences Noted During One Day's Activities in a First Grade

I. *Measurement and comparison:*

A. Projects involving measurement: (1) Boy, in working on a building project, discovered one leg of table too short, measured others; (2) girl selected doll small enough to fit a doll's bed made for house. Table discovered "too high" for house. Pillow "too high" for doll, mattress "too thick."

B. Comparison of lengths: (1) Longer line of boys noted: (2) nails used not long enough.

II. *United States Money:*

A. Milk tickets: (1) Change made. Five cents brought, ticket costs four cents, Eleanor gave Robert one cent; (2) boy brought ten cents, said he wanted one milk ticket and a penny, the other five cents was for his sister's milk ticket and a sandwich; (3) "Tomorrow I'll bring twenty cents for my milk for all next week."

B. Stamp money: (1) "I have three cents for three stamps;" (2) "Please give me change for a dime. I'd like two nickels."

III. *Counting:*

A. Class situations: (1) John counted the chairs for reading class. Twelve were needed, he took two away; (2) four children are allowed at the blocks. Six children went, Francis counted and sent two away; (3) seven paper towels were needed, Bianca counted them; (4) in dancing, couples were counted, 2's to 12; (5) reading cards, those having the most; (6) number of books needed for class; and (7) number of children who had clean hands and faces.

GRADE II

I. *Measurement and comparison:*

A. Construction: (1) Floor maps or sandtables—reproductions of scenes from other countries. For example: Holland. Laying out a general plan illustrating features of country, i. e., dykes and canals; construction of houses; windmills; (2) a model playground. Constructing apparatus of proper size; (3) a school district—marking safety zones; and (4) making of toys; as for example, kites, measuring sticks, paper, length of tail, etc.

B. Sewing: (1) Dolls' clothes—measuring material used; and (2) costumes for dramatic plays—measuring materials to estimate amount needed to fit child.

C. Drawing: When illustrating, making figures in proportion to objects in picture.

D. Weight survey: Children comparing height and weight with others. Own age; height and weight; what they should weigh.

E. Time: (1) Getting acquainted with clock numerals. Knowing time to get up. Knowing time school begins. Knowing time school closes. Knowing time we go to bed; (2) number of school days—names; (3) number of days in week—names; and (4) number of months in year.

II. *Counting*:

A. Children in room: Children needed in games; chairs for groups; cakes, candies, napkins, plates, etc., for a party; and pencils to be sharpened.

B. Room scores: Best attendance. Number of children to take bath at school in one day. Number who came with clean hands.

C. In playing games: Marbles—number owned counting by 2's and 3's. Jump rope—number of times jumping. Relay races—choosing sides. Hide and seek—counting by 5's and 10's. Keep scores —in all sorts of games both in and out of school. Dancing games —counting by 2's (partners) for number needed.

D. Library books: Librarian appointed to count books. Count books in library. Number in use. Number returned.

E. Reading of numbers: Pages in books. On calendar. On ruler (ft.); yardstick. On schoolroom doors. On houses. On automobiles.

III. *United States Money:*

A. Buying stamps at school: Keeping track of number (in own book) purchased. Recognizing penny, nickel, dime, quarter. Making change as, 2 nickels for a dime; 5 nickels for a quarter; 2 dimes and nickel for a quarter.

B. Milk luncheons: Buying milk for 1 day—for 5 days. Number of children in room buying milk for one day. Number of bottles purchased in 1 week. Amount of milk the school milk bottle contains. Amount every child needs per day. How much milk bought daily for family.

C. School lunch room: Buying soup, sandwiches, cookies, fruit, etc. Reading prices; knowing cost of lunch; receiving right change. Reproducing cafeteria in school room—problem in buying and selling.

D. Doing errands at store for mother: Playing store in school room. Problems involved as buying 1 pound of butter, 1 dozen eggs, 1 yard of cloth, etc.

E. Sales—to earn money for a picture for schoolroom for example: Cookie sale. Problems involved as: making of cookies, going to store to buy materials, making a number of dozen; price of cookies, selling of, making of change, total amount earned.

F. Trip to park: Carfare needed. For one child. For all children going.

List of Number Experiences Noted During One Day's Activities in a Second Grade

I. *Measurement and comparison:*

A. Projects involving measurements: (1) Safety play being given. A doorway to be used had to be measured to estimate the length of burlap to be used. Length and width found, burlap measured, cut and put up. Size of letters for given space planned and cut; (2) children playing a horseshoe game measured and placed a block one yard away.

B. Class situations involving number: (1) Comparison of two lines: the boys' line is longer than the girls' line; (2) changing of chairs for reading class. Shorter chairs for short children. Higher ones for taller children; (3) passing materials. Two more papers needed. There were just enough; (4) four animals were to be cut out. "I can cut two from this size sheet. I need one more paper for four animals in all."

II. *United States Money:*

A. Buying milk. (1) Nicholas brought 5c for milk. He asked for one cent change; (2) girl brought 10c to pay for milk for two days. Milk for one day costs 4c; 8c for two days. "I need two cents change." Other problems worked out as, the cost of milk for one week; five school days in one week, etc.

B. Paying for lunches: (1) Many problems arise daily in the lunch room. Five cents to spend will buy two sandwiches, three crackers. Ten cents for lunch. Luncheon planned by looking at the sign, as in cafeteria—prices listed.

III. *Stamp Money:*

A. Making change: (1) Delia brought 50c. She asked to have it changed into quarters. How many? She had two half dollars; how many quarters?; (2) boy had nickel; wished it to be changed to five pennies. One dime asked in exchange for two nickels. Number of dimes to make one dollar; (3) girl brought five nickels. Wished it changed for one quarter stamp; (4) Marian said she had 21c in her stamp book. Her mother gave her 12c that day. Now she has 33c.

IV. *Counting:*

A. Class situations involving number: (1) Number of books to be returned to the office; (2) number of children in the class to know how many books to take from the shelf; (3) one pupil keeps track of the library books; counts them each morning. Found only eight books; should be ten; two books missing; (4) number of stars earned: nine. Saw three 3's. Three 3's make 9; (5) sixteen children in a class. Only nine chairs—seven more needed.

V. *Problem:*

A. Supplementary class exercises: (1) In the story of "The Elves and the Shoemaker," one pair of shoes costs one dollar. Two pair will cost two dollars; (2) during a reading lesson, the class found that there were six more pages of a book to read. Reading two pages a day the book would be finished in three days; (3) keeping scores for games.

GRADE III

I. *Measurement and comparison:*

A. Construction arising from studies in geography, reading and safety education: Floor maps and sandtables to show, for instance, native environment of an Indian boy or a street or street corner in our own city.

B. Sewing: (1) Dressing of dolls in costumes of children in other lands and of our own country, studying design, measuring materials needed; (2) making costumes for children, such as Indian suits and blankets, estimating material used; (3) making costumes for dramatic plays or dances. How much material does your mother buy for you? How much, then, do you need?; and (4) making of curtain for Puppet Theatre. Buying cloth, rings, and rods. Measuring length and width and space between rings.

C. Weaving: Indian rug; size, length, width, amount of wool used.

D. Wood work: (1) Measuring poles for Indian wigwam. Measuring cloth for Indian wigwam; (2) constructing vehicles used by "Children in Other Lands"; (3) in Safety Education, constructing trolley car, measuring boxes, cutting out windows, "arm" for trolley wire; and (4) buying, measuring and sawing out box for Puppet Theatre.

E. Gardening: (1) Planning and making a garden plot, dividing it to make 4 beds, measuring length and width of each; and (2) helping in home garden, gathering pecks and bushels of potatoes and other vegetables.

F. Weight survey: Keeping a chart; weight record; comparison of weight. Age. How much do I weigh? How much should I weigh? How much does Alice weigh? How much more does Mary weigh than Alice? How much have I gained?

G. Telling time: (1) Division of time, time needed for work periods, time needed for helping in lunch room; (2) length of school day; (3) number of school days in week, in month; and (4) time it takes for fire drill, minutes out of room.

H. Luncheon period: Milk. Number of ½ pint bottles per day for room. Number of ½ pint bottles per week for room. Number of ½ pints to make 1 pint; 1 quart.

I. Distances: How many blocks from your house to the school? How long does it take you to come? How long does it take you to walk to the City Hall? How far is it? How far is Boston? New York?

II. *Counting and fundamental processes:*

A. In games: Hide and Seek; counting by 5's, 10's to 100 and to 500; Hop Scotch; races; choosing sides and keeping scores.

B. Library books: Number in library. Number taken out. Number on hand. Charts showing individual reading records. Record of classroom achievement in given time.

C. Knowing number of: House in which I live. Fire box near house. Telephone.

D. Helping mother:

1. The following errands illustrate the daily use of arithmetical processes: The problems are taken from actual experiences of children going to the store for their mothers.

a. Stanley said he was sent to the store to buy 2 quarts of milk at 11c a quart. He had 50c to pay for it. The milk cost 22 cents and he received 28c change from the clerk.

b. Vasil said she went to the store for her mother. She purchased a loaf of bread for 14c. She gave the clerk 50c and received a quarter, a dime, and a penny, or 36 cents change.

c. One child said her mother sent her to buy Dolly Madison bread (several days old) which sells for 4c a loaf. She purchased 3 loaves of bread and gave the clerk a quarter, receiving 13c change.

d. Annie said she was given 50c with which to purchase 1 can of coffee at 25c a can, also ½ dozen rolls at 20c a dozen. She paid the clerk 25 cents for coffee and 10 cents for rolls, or 35 cents. He gave her 15c change.

e. Umberto said his mother sent him to the store to buy bread (1 loaf) at 12c a loaf, and a newspaper (2c). He gave the storekeeper a quarter and received 11c change.

f. Bernice said she went to the store to buy one quart of milk at 12c a quart, and one box of cookies costing 5c. She gave the clerk 50c and received 33c change.

g. Buying a pumpkin. A small one weighing 3 lbs. sells for 12c. What would a pumpkin weighing 9 lbs. cost?

E. Helping others:

1. Thanksgiving contribution for the poor. A boy brings 1 peck of potatoes; another 3 lbs. of onions; another 1 quart of preserves; another 2 quarts cranberries; and another 1 dozen oranges. A group of pupils sorts vegetables, finds we have a barrel of potatoes, a bushel of onions, a peck of turnips, etc.

III. *United States Money:*

A. Stamps: Keeping individual record. Keeping score. Money collected by boys of room; by girls; winners. Amount saved by our room in 1 day; 1 week; 1 month. Amount saved by our school in 1 month. Compare with other schools. Account opened with savings bank as soon as $1.00 is saved. Depositing money each week for mother.

B. Sale of milk: Keeping room record of sales by day and week. Compare sale by day and week. Compare sale with neighboring room. How much more did they buy than we? How much did we buy together?

C. Lunch room at school: Amount spent for lunch for each child by day; by week. Boys from this grade assist with sale of milk.

D. Reproduce lunch room: Plan a good noonday luncheon. Find cost. Find out from lunch matron price of supplies, as for example: cost of soup, number of pounds of meat used—cost, number potatoes used—cost, carrots used—cost, and onions used—cost.

E. Playing store: Weighing, measuring, buying, and selling.

F. Purchase of seeds at school for home gardens: See price list for name of seeds, cost of 1 package, cost of order for 1 child; for room.

G. Sales, to earn money for stereoscope and pictures: Chocolate bars at 5c a bar. 20 bars in box. Number of boxes ordered. Profit for company; for school.

H. Carfares to go to library: Cost of 1 ticket; cost of strip of 3 tickets. Is it cheaper to buy single ticket or 3 tickets?

List of Number Experiences Noted During One Day's Activities in a Third Grade

I. *Measurement and comparison:*

A. Projects involving measurement: (1) Michael was making a scooter. He needed a box, found one the right size, and measured it to see how long the handles should be. The board used for the handles was measured and sawed the desired length. The height and width were measured to estimate the amount of paint needed; (2) in making an ice wagon, boys measured sticks to get six of the same length; (3) girls when making dolls' clothes measured the amount of cloth required for dresses; (4) class found the number of square inches in the side of box being used. They also estimated the size of a window pane; (5) class when making curtain for Puppet Show measured spaces on curtains where rings should be sewed.

B. Measurements supplement reading lesson: Class was reading about date palm leaves. Children measured length of leaf described and compared this with the length of maple leaf.

II. *United States Money:*

A. Buying stamps: (1) Changed a dollar in quarters for stamps; (2) change made for a dime and a quarter for stamps; (3) paid five pennies for a nickel stamp; (4) Esther said that she had $1.71 in her stamp book. She was buying a nickel stamp; she would then have $1.76.

B. Buying milk and lunches: (1) Counting number of children taking milk, and figuring total cost; (2) each child counts up amount of money he spends for milk each week; (3) two boys from this grade help daily with the sale of milk. They record the time it takes: number of minutes, fraction of an hour; and (4) children buy lunches, count the cost, and figure the change.

Fifth and Sixth Grade Arithmetic Activities Reported from the Public Schools of Lincoln, Nebraska

I. *School activities:*

A. School garden problems: (1) Renting a garden for one season: plan a garden drawn to scale; amount and cost of fertilizer; amount of seed and plants; cost of fencing; amount of time spent in working in garden, and its value; beauty of arrangement; color harmony in flower garden; (2) making a seed bed. Cubical contents of box determined. Study of soil. Seeds planted. Plants actually grown and sold; and (3) tulip bed. Cost of each plant. Number of plants needed. Care of plants.

B. School supplies: (1) Estimate amount of paper used by class in one day, one week, one month, and one year. Find the cost; and (2) estimate the number of pencils, pen holders, and pens needed by the entire building and their cost.

C. Savings account of indivdual members of the class: If deposited now at 4 percent interest, by the time the owner is twenty-one years of age, what will be the amount of these savings?

D. Filling Thanksgiving baskets: Food actually brought, baskets packed and delivered. Cost determined very carefully. Letters written to accompany baskets.

E. Christmas dinner: (1) Menu for own family at home worked out by each member of class. Local prices found. Cost estimated; and (2) Menu for poor family decided upon. Cost of food found. Supplies bought and sent.

F. Fraction party: Submitted menus, each thing to be a fractional part. Class decided upon four things for party. Amount needed. Cost determined. Party held.

G. Making bird houses: Dimensions carefully planned. Drawings made. Houses constructed.

H. Building programs and gifts to building: (1) Number of tickets of operetta sold. Tabulate expenses. Amount made; and (2) gifts to building discussed. Victrola records, pictures, books, statuary. Cost and value of each considered.

I. Candy sale: Money spent carefully noted. Profit on candy determined. Class decided to subscribe for three school magazines. Gift of army blanket for rest room given.

J. Health problems: (1) Comparison of individual weight with standard; (2) study of food values and balanced meal; and (3) conditions of schoolroom. Light, air, amount per pupil estimated. Comparison with ideal conditions.

K. Purchasing lantern for school: Record kept of contributions of individual children. Contributions of each room determined daily. Comparisons made.

L. Lunches for pupils: Food actually bought and prepared by pupils.

M. Problems growing out of geography work: (1) Area and population of countries, population of cities compared, length of rivers, height of mountains, area of basins; (2) comparison of countries in output of cattle, hogs, wheat, coal, silk, and flax; and (3) making graphs of products for comparison. Comparison of water and railroad transportation. Length of trade routes.

N. Reading test problems: Individual index of comprehension. Standard index given. Each child determined his own position in relation to standard.

O. Food for Russia: Discussion of suitable food to send. Cost determined. Box packed, freight bill paid, box sent.

P. Playing salesman: Line of work selected: Automobile, clothing, wall paper, roofing, grocery, or sports goods salesman. Sample cards and books studied. Orders given. Costs determined.

Q. Playing Post Office and sending money orders: Postal clerk appointed. Money orders written. Each child checked work.

II. Home situations:

A. Expenditures of members of the class: Individual records. Class record. Contrast with savings account deposited at interest.

B. Vacation trips: Studied time tables. Learned to interpret. Cost of tickets to different places. Cost of meals in dining car. Cost of Pullman. Cost of hotels. Entire cost determined.

C. Automobile problems: Cost of buying, equipping, and running an automobile.

D. Beet field problems: Cost of transportation to beet fields. Living expenses while there. Wages earned. Profits determined.

E. Reading speedometers on automobile and bicycle. Read again three days later. Estimated distance traveled.

F. Reading meter: Read water meter on Monday evening. Read again one week later. Estimate number of gallons used in one week.

G. Personal budget: Each child estimated the amount needed to support himself for one year. Food, clothing, and personal expenditures taken into consideration.

H. Family budget: Adopt an imaginary family. Determine size and income of family. Determine the items of the budget such as rent, clothing, food, savings, amusements, education, and incidentals.

I. Home problems: (1) Furnishing a girl's room, necessary furniture decided upon, color harmony considered, cost determined; (2) same for boy's room; (3) cost of putting in walks, area of walk, amount of material needed; (4) painting house, color, cost; (5) care of lawn, grass seed, planting, mowing, cost determined; (6) fencing back yard; (7) building coal bin and vegetable bins in basement, estimating capacity and cost; (8) papering room, amount of paper, cost; (9) linoleum on bath room and kitchen floor; (10) size and cost of rugs for living rooms; and (11) comparison of heating by oil and with coal.

J. Home building: Class divided into groups. Chairman becomes contractor. Selects mason, painters, carpenters, and plasterers. Submits plan of houses to be built. Determines costs.

K. Home life of pioneer family: Built log cabin. Considered size of logs, number needed, cost determined. Study construction of fire place. Fuel cost determined. Family budget studied.

L. Money saved in one year for buying Christmas presents: Methods of saving discussed. Method of keeping accounts. Use of bank book. Kind and value of Christmas presents considered.

M. Making Christmas gifts: Amount of material needed in each. Amount needed for entire class. Cost determined. Designs applied. Gifts made.

N. Radio problems: Cost of different pieces of radio outfits learned. Prices compared. Original problems made.

O. Farm situations: (1) Problem an outgrowth of geography studies. Wheat industry. Size of wheat farms. Amount of wheat produced. Selling price of wheat. Cost of production. Amount gained; and (2) size and capacity of wheat bins. Brief study of flour. Cost of manufacture; amount of money made, as compared with selling the wheat.

P. Newsboy problem: Newsboys gave record of papers sold. Clothing estimated. Is it profitable?

Investments—One Topic Studied by Eighth Grade Arithmetic Class[1]

I. *The Importance of Investing Wisely:*

To the pupils: The first unit of work has no problems for you to solve. It is really the most important part of the whole topic. After you have finished all of the units under the topic "Investments," you will be asked to state briefly why this unit of work is so important.

A. Class discussion: (1) Tell instances you may know of where persons have lost their money through poor investment, (2) What different things might your parents do if they had $5000 to invest? and (3) Read the following article; then write out the important advice which is given therein. (This should be one short sentence.)

If our finances are limited, we cannot afford to take any unnecessary risks in relation to their investment, as our present and future comfort and welfare may be at stake.

Annually millions of dollars are raked in by fake stock salesmen and by the schemers who know how to sell other kinds of "gold bricks."

The reason these crooks find such easy prey is that the people to whom they appeal are eager to believe that wealth is just around the corner. And they are easily persuaded that to reach it, all they need is the courage to take up some very attractive proposition. The result is that they are "sold."

Quite often an out-of-town concern with something to sell gets hold of local individuals of influence and uses them as cat's paws to "pull the chestnuts out of the fire."

For instance, a stock-selling group convinced an evangelist that a fortune awaited investors in a new automotive project. In his acceptance of the statements made to him, the evangelist was entirely honest. An office being opened in his home city, he consented to let his name appear on the firm's stationery and to become a local representative.

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[1] Reported from public schools of Dayton, Ohio, in the form in which it was presented to pupils.

Because this man, in whom people had great confidence, was connected with the concern, most of its victims made no investigation except of a casual character. The literature was expensive and beautiful, the office fittings impressive, and the sample case most fascinating. Thousands and thousands of dollars were taken in exchange for lithographed shares of the company's stock.

Then someone became suspicious and the local chamber of commerce began to dig into the affairs of the concern. It was found that the car shown to stock prospects was the only one the firm had turned out to date, and that its chances of success were remote.

At the present writing, those who invested have their certificates of stock as souvenirs of their folly. They are minus their money. Similar instances could be multiplied almost without end.

Even home investments should be examined with care, for the promoters may be honestly mistaken as to what they are selling. Not all new enterprises can succeed; in fact, relatively few of them do; and not all old enterprises can still qualify as profit-makers.

One of the principles of Russell Sage was not to invest in stock less than a generation old.

A good rule for those with money to invest is to take no action until they have obtained the advice of a conservative banker who has sources of information that are not available to everyone.

If a conservative banker advises against an investment, better let it alone, no matter how glittering it may appear.

To be sure, we are all human, and may err, but far fewer mistakes are made through caution than through plunging and speculating.

Every little while the press tells us of some swindler who has literally drawn millions from the pockets of trusting people. Even if such a person is finally apprehended and punished, it is scant comfort for those who have seen their hard-earned reserve funds disappear.

B. References for pupils: Read as many of these references as you can. Make a list of the various kinds of investment discussed. Be ready to tell the advantages and disadvantages of each.[1]

II. *Stocks:*

A. Pupil references:

Terms new to most pupils are used in connection with stocks. These references tell about them.[1]

After you have read these references you can test yourself by this match test:

1. Market Value
2. Corporation
3. Stock
4. Share

A. Money used in a business.
B. A company engaged in business.
C. The price at which stock can be bought.
D. The paper which is given the owner of stock.

Teacher please complete for topics 5-18

5. Par Value
6. Dividend
7. Stock Certificate
8. Investment
9. Income
10. Preferred Stock
11. Common Stock
12. Broker
13. Stockholder
14. Brokerage
15. Stock Exchange
16. Quotations
17. Surplus
18. Earnings

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[1] Specific references were cited. Any school system could supply its own references.

B. Problems to solve:[1] You will not be able to work all of these problems. Use your text and then solve at least five of the other problems.

C. Make a list of Toledo corporations. Bring in stock quotation page from newspaper. Follow a certain stock for a week or longer; then graph its rise or fall.

(Pupils might divide into groups, each group choosing a stock for imaginary investment.)

III. *Capital stock of a bank:*

A. Problems to be solved:

1. What income would a bank receive on $1,500,000 at 7½ percent?
2. A bank declares a 5 percent dividend. How much will the owner of ten $100 shares receive?
3. The capital stock of a bank is $800,000 and it pays a dividend of 12 percent. How much is the dividend?
4. The capital stock of a bank is $50,000. There has been an earning of $4000 in the year. If you own 80 shares, what dividend will you receive?
5. A bank corporation sold 20,000 shares of stock at $100 a share. What was the capital stock of the bank?

Compare various bank reports in the daily newspapers.

IV. *Bonds:* National, state, county and city governments and other corporations sometimes borrow money to meet certain expenditures. This may be done by selling bonds.

A. Pupil references: To learn what bonds are, read.[1]

B. Problems: Make a list of the kinds of bonds you have read about and be ready to tell what each kind is.

Write a statement telling why each of the following statements are true:

1. A bond is a much safer investment than stock in the same company.
2. A registered bond is safer than a coupon bond.
3. Bonds issued by the national government, state or county are the safest form of investment.
4. Bonds listed on leading stock exchanges are usually more readily sold than those not so listed.
5. It is better for a small investor to buy his bonds from his banker.

Compare these statements:

1. Bonds are a good investment because the interest is paid . . .
2. They can be bought in . . . sizes.
3. There is always a . . . market for them.
4. If the owner wants to borrow money, they can be used for . . .
5. To the person with small income United States bonds are . . . free.
6. Their depreciation is likely to be . . . than most properties.

V. *Real Estate:*

A. Pupil references: Before you solve any problems you will find these topics interesting for discussion:

Real estate values, Changes in values; Building versus Buying; Ownership versus Renting; Loans, Mortgages, Deeds; and Building and Loan Associations.

As you read the books and magazines articles listed below make a list of the questions you think ought to be given as a test of your understanding.

"A Home of Your Own and What It Means to You," by M. V. Folsom.

"Long and Short Term Leaseholds," by Stanley L. McMichael.

Articles in Saturday Evening Post of November 17, 1923, by Harold Cary.

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[1] References to texts were given in course of study.

Also issues of same magazine dated December 1, 1923, March 1, 1924, and March 29, 1924, articles by Felix Isman.

"The World Book" and "National Real Estate Magazine."

Real estate values, changes, etc.: There are several reasons for real estate values, the main one of which is location, viz., the proximity to some commercial or other activity, as for instance, the downtown real estate of a city is worth much more than property near the outskirts. Holdings within the limits of a corporation are listed higher than those outside. This is because of improvements within a city that are not found as a rule in the rural districts, improvements such as sewers, water lines, gas lines, electricity, street cars, paved streets, etc.

Real estate value changes are due to a variety of causes. Take most any city of one hundred thousand population at present and ten or fifteen years ago there was residence property where now lie business activities. The old homesteads have been razed and modern structures erected, housing one or possibly several industries. The rental value has increased and naturally the land value increase follows.

Building versus buying: The question of building versus buying usually causes a controversy when brought up for discussion and both issues have their merits.

In building a new structure several things must be taken into consideration and there are extensive plans and financing, etc., to be effected, let alone the worry caused by unforeseen delays and conditions that are encountered. For instance, a man desires to own a home. He must first purchase the land, then call in the architect, spending considerable time in planning and drawing up the specifications. The contract is let, then he has the builder to contend with, also the long wait while the building is being erected. He must take care that he is safeguarded against loss due to accident or other causes beyond his control during the construction period. In addition there are fire, building and restrictive laws that must be observed. He has one satisfaction, however, he can get just the kind of a house he wants.

On the other hand let him step into the open market, pick out a house already erected, have the title, etc., investigated by some one competent and by paying over his money he secures a completed building in about one fourth the time and with infinitely less trouble than it takes to erect one. He may make a few minor changes but these alterations need be no bar to immediate occupancy.

Ownership versus renting: Most people agree that ownership of a home is more satisfactory than renting for he who owns possesses and he who rents does not, and may be evicted almost at the pleasure of his landlord. A few salient arguments in favor of home ownership are:

It is the safest and most profitable family investment.

It begets self-respect, independence of spirit and self-reliance.

It gives one a better legal status, financial rating and social standing.

It inspires more careful living and spending methods.

The owned home solves the old folks' happiness.

Its safety is unquestioned. It is the recognized standard of security.

It assures the family a safe shelter if the provider dies.

Loans, mortgages and deeds. Loaning money is a frequent practice in real estate operations and the majority of loans carried by financial institutions are protected by mortgages on real estate.

Mortgage. A family owning a home has opportunity to secure an adjoining lot at a bargain, yet cannot immediately produce full purchase price. A couple living in a rented flat decide to buy a home but have only a few hundred dollars in the bank to invest. One way in which these people can carry out their plans is to arrange with some bank, real estate firm, or other investor for a loan amounting to only part of the property's value, giving a mortgage on the entire property as security for repayment of the money. The mortgage is virtually a sale or transfer of the property to the lender or mortgagee but differs from actual sale in that the borrower, or mortgagor, remains in possession and such tentative sale is cancelled if by the time specified the debt is repaid with the interest agreed upon in addition.

Deeds. See the World Book, Volume III, page 1738; The Torrens System of Registering Titled Real Estate, the World Book, Volume IX, page 5844.

Building and loan associations are organizations whose primary object is to make it possible for people of small financial resources to own their homes. They loan money to responsible people who wish to build or buy a home. All associations may be divided into two classes, private corporations, and mutual companies.

Objections have been raised to mutual organizations because they charge higher rates of interest on their loans. It is true, however, that they lend money to people who would otherwise be unable to own their homes. In most states the operations of these associations are very strictly controlled by special laws.

Upkeep and repairs pertain to the keeping of property in a good state of preservation and refer to repainting, taxes, repairs, repapering, etc.

B. Problems:[1]

VI. *Judging Investments:*

A. Illustrative problems:

Which of the following investment advertisements do you think offers the safest place for your money? Which is the next safest? Which is the least safe? Why?

1. "Thrift is Power" "Save and Succeed"
Keep on Buying War Savings Stamps
Series of 1920

On Jan. 1, 1925, the U. S. Government will pay $5.00 for each War Savings Stamp sold in 1920 at the following prices: Jan., $4.12; Feb. $4.13; Mar. $4.14; April $4.15; etc.

2. "Nothing Venture, Nothing Gain"

Oil has made many fortunes over night, why not yours? The Money-back Oil Co. Stock now only 10c. a share. Get in early before the price advances.

3. "Bonds as Safe as Our Cities"

Municipal bonds yielding 4% fulfill these tests for successful investing. These bonds are:

(1) Safe—Payment of principal and interest are assured when they are due.

(2) Marketable—They can be readily sold at any time.

(3) Productive—The interest is as high as is consistent with safety.

4. Individual loans secured by residences, apartments, and small business properties in Chicago, in amounts from $2000 to $20,000. Interest yield, 5% to 6%.

5. Six percent $500 and $100 denomination First Mortgage Serial Gold Notes. Interest payable semi-annually. Secured by First Mortgage on Cleveland, Ohio, real estate of more than double value.

Consult the newspapers and magazines for investment opportunities and bring to class what you think are examples of poor, good, and excellent investments.

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[1] Reference to texts were given in course of study.

Special Contributions in the Field of Research

STUDY NO. 1. *Comments on Long Division.* F. B. Knight, State University of Iowa. Report presented to the Arithmetic Committee of the 1926 Yearbook.

When problems in long division are properly constructed and graded as to learning difficulty, strain in teaching is reduced, pupils' interest is increased, and efficiency of teaching multiplied. The teaching of long division is illumined when the subject is considered statistically, psychologically, and pedagogically.

1. *Statistical Analysis of Long Division*—Let us here confine long division to examples using two-digit divisors. In the same sense that there are 100 simple or primary addition facts there are 40,095 possible divisions using two-digit divisors. Omitting divisors which end in zero as 40)83 or 70)548, since such divisors become, psychologically, one-digit divisors, we find that 40,095 examples can be written without repetition. Thus:

12)24 is counted as one division, but 12)264 is not counted as two divisions since it is really two repetitions of $12\overline{)24}$.

12)1476 is counted as three divisions; namely, 12)14, 12)27, and 12)36.

The fact that there are 40,095 possible examples in long division with two-digit divisors leads at once to several considerations. Among these are:

(a) In the time allotted to the teaching of long division it is impossible to give actual practice upon all possible examples in long division. While we can teach all 100 addition facts, all addition facts that occur in carrying in multiplication, all subtractions possible in uneven short division, etc., we cannot teach specifically the 40,095 possible divisions with two-digit divisors. See Table 6, page 211.

This means that we must prepare pupils to meet examples they have never seen before; i. e., we must set up procedures which use transfer of training in a sense that it need not be used in other aspects of arithmetic. Hence, we must use in long division a simplicity and flexibility of procedure that can be transferred and that can stand up in new situations.

(b) Since long division is such an enormous function in mere extent, we must take care to know significant facts about it. Surely, the 40,095 examples are not all of the same kind, psychologically considered, although they are all of the same kind from the standpoint of mathematics. It will therefore be useful to propose a psychological description of long division.

2. *Psychological Nature of Long Division*—Here we must limit ourselves to three aspects of computation. These are by no means of equal difficulty to the average learner. These three aspects are:

(a) Divisions which involve carrying in the multiplication. Thus $\begin{array}{r}2\\24\overline{)48}\end{array}$ is not psychologically equal to $\begin{array}{r}3\\24\overline{)72}\end{array}$ since one example involves carrying in the multiplication and the other does not.

(b) Divisions which involve subtraction difficulties in obtaining new dividends. Thus:

$\begin{array}{r} 2 \\ 53\overline{)109} \\ 106 \end{array}$ is not psychologically equal to $\begin{array}{r} 3 \\ 53\overline{)162} \\ 159 \end{array}$ since one example involves borrowing or carrying in the subtraction and the other does not.

(c) Divisions which involve non-apparent quotients. Thus, by estimating the quotient by use of the ten's digit figures some such estimations yield the correct quotient and some do not. As:

$\begin{array}{r} 4 \\ 41\overline{)174} \end{array}$ does not psychologically equal $\begin{array}{r} 3 \\ 48\overline{)174} \end{array}$ since one quotient figure is apparent and the other is not.

There are other differences existing among the 40,095 possible examples but these may be postponed for the moment.

The above three differences lead at once to certain considerations. Among these are.

(1) Examples can be found which contain one of the above difficulties but not either of the other two. Examples can be found which contain any two of the above difficulties but not the third. Examples may be found which contain all three of the difficulties. These facts can be used to answer such questions as: Should all three difficulties be dealt with separately? Can examples be provided which contain all three difficulties in calculated position? Can we, in the first teaching of long division, safely neglect some of these difficulties hoping that they will not prove vexatious to the pupil or shall we build examples so that we will have the child face these difficulties in isolation and in combination according to some definite plan?

(2) How many of the 40,095 possible division examples contain only one of these three difficulties, how many contain only two, and how many contain all three? The answer to this question is important because we should know the constitution of the total skill in order properly to plan the pupil's experience with it. If 90 percent of the 40,095 examples contain only one difficulty, proper drill provisions would be significantly different than if 90 percent of the 40,095 examples contained all three difficulties.

(3) Analysis of all possible divisions with two-digit divisors shows that the difficulty of non-apparent quotients is not a simple affair; that is, estimation yields a wrong quotient and amounts of wrongness are not negligible. We find that estimation sometimes yields a quotient that is but *one* unit away from the correct quotient, sometimes *two*, sometimes *three*, and in a few instances *four* units from the true quotient. Thus in providing drill upon quotient difficulties we should graduate our difficulties in a calculated fashion. It is probably wise to first give drill with divisions whose estimated quotients are also true quotients, then divisions whose estimated quotients are one unit away from the true quotients, then two, then three, and then in a mixed order as far as quotient difficulty is concerned.

(4) Examples of degrees of quotient difficulty will be evident from the following examples. Here it is assumed that the estimation is gained through the use of the ten's digit of the divisor.

$84\overline{)174}$ Estimated and true quotients are identical.

$32\overline{)123}$ There is a difference of 1 between true and estimated quotient.

$17\overline{)69}$ There is a difference of 2 between true and estimated quotient.

$19\overline{)79}$ There is a difference of 3 between true and estimated quotient.

(5) The nature of the quotients difficulties must be known with exactness in order to determine the worth of rules relative to estimating quotients. It is often thought that the rule of "increasing the ten's digit by one" in certain cases will yield true quotients at a glance. Thus, when divisors end in 6, 7, 8, and 9, increase the ten's digit by one for the process of estimation. Thus, if the divisor is 47, estimate with a 5; if the divisor is 68, estimate with a 7, etc. As a matter of fact, this "increase by one" rule fails to work in about 25 percent of the cases. It is very doubtful whether it is wise to insert a special device which breaks down one time out of four. The proper psychological theory supporting the making of rules or procedures has not yet received any too close study but the following considerations are pertinent here:

If the pupil is taught to always estimate from the ten's digit as printed, he will make many wrong estimations, but the error is constant because his estimated quotient will *always be too large* when wrong. Thus he can be taught to always try a *smaller* quotient.

If the pupil is taught to increase the ten's digit of the divisor by one when the units figure is 6, 7, 8, or 9, he will get the correct quotient figure immediately a little oftener; but when the correct figure is not yielded (as is often the case), he will sometimes have to increase the trial quotient and sometimes have to decrease it. That is, the error is in *both* directions. This adds genuine difficulty and may be too great a price to pay for avoiding even more frequent errors (always in the same direction) through the use of the rule: Estimate from the ten's digit of the divisor as printed.

Certainly, discussion is not the way to determine the matter of what rules to teach in getting quotients. A study of methods now taught fails to show that those responsible for the instruction have well in mind the percentage of time their rules will work, the percentage of times they will not work, and the type of error made when such error is made. Competent experimentation is still wanting on this point. The following suggestions are made. Teach slow and average pupils to always estimate quotients from the ten's figure of the divisor as printed. (When trial quotient is not yielded, the true quotient is always smaller.) The defense for this is that the procedure is simple and straightforward. Allow bright pupils to increase the ten's digit of the divisor by one when the unit figure is 6, 7, 8, or 9. They will be able to correct in either direction without undue confusion. Such increase, however, should be brought in as a short cut under the "law of laziness" after direct estimation has been well mastered.

The following analysis of the three difficulties presents the facts relative to the constitution of all possible examples with two-digit divisors. After the study of this analysis the reader can make any decisions he wishes relative to the organization of drill work, and what rules to teach for quotient determination, since such decisions should be made in the light of frequency of the difficulties in the total function.[1]

TABLE 6.—NUMBER OF POSSIBLE EXAMPLES IN LONG DIVISION WHICH CONTAIN CERTAIN DIFFICULTIES

Total Number of Examples: 40,095

Number of examples and per cent of total function		Nature of Difficulties
Number	Percent	
171	.4	NC–NB–both and DI–NR
4,238	10.0	NC–NB–both D and I–R
4,681	11.0	NC– B–both D and I–R
186	.4	C–NB–both D and I-NR
6,391	15.0	C–NB–both D and I–R
6,283	15.0	C– B–both D and I–R
2,791	6.6	D–NI
14,121	35.0	ND–I
1,233	3.0	ND–NI
40,095		

C means there is carrying in the multiplication.
NC means there is no carrying in the multiplication.
B means there is borrowing in the subtraction.
NB means there is no borrowing in the subtraction.
D means estimating by ten's digit as printed yields true quotient.
ND means estimating by ten's digit as printed yields false quotient.
I means estimating by ten's digit increased by one yields true quotient.
NI means estimating by ten's digit increased by one yields false quotient. (count includes only divisors ending in 6, 7, 8, 9.)
R means a remainder is present.
NR means no remainder is present.

NOTE: Considerations of carrying, borrowing and remainders are carried for but about 19,000 examples where quotient considerations are small, since these should be mastered early and neglected in drill construction when quotient difficulties gain in importance.

3. *Pedagogical analysis of long division*—Let us consider here certain problems of teaching long division. We are faced with such questions as these: (a) Exactly what steps should be specifically taught? (b) In what order should these steps be taught? (c) Which steps should receive the bulk of the practice? (d) What forms of drill organization by their very form facilitate mastery? (e) What type of test will genuine diagnosis break down in long division? (f) What provisions should be made to

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[1] The above analysis accounts for the 40,095 possible examples with two-digit divisors.

maintain skill in long division after it has been mastered and the class has gone on to learning other topics? (g) How much time is needed for the mastery of long division for pupils of varying levels of ability?

A detailed analysis of the teaching of long division in several standard textbooks is deleted from this discussion for space consideration. The main facts evident from this analysis were these: (a) Textbooks disagree on the matter of what specific things to teach. Some aspects of division which one text elaborates upon is slighted or entirely omitted in another text. (b) Texts disagree on when a given aspect of division should be taught. One text will teach an item toward the beginning of the total treatment, another will present that item toward the last of the total treatment. (c) Texts disagree on the matter of amount of drill on a particular item. One text will give 50 drills on some item, another text but 5 or 10 drills on the same item. (d) Texts disagree on the wisdom of inserting difficulties before they are taught. Thus one text will insert zero difficulties in the quotient as if they were not difficulties at all. Another text will carefully teach this difficulty before examples using it appear in drill work. (e) Texts disagree as to the inner composition of drill work. One text will provide drill which practices all the multiplication combinations, another provides multiplication practice in an apparently hit and miss fashion. (f) Some texts will stress quotients which are not apparent, thus breeding contempt for a difficulty through familiarity with it; others will get around this trouble by giving few examples which contain difficulties. (g) Some texts will teach two or three difficulties at once. Others will "make haste slowly" by teaching each difficulty by itself and then prudently inserting them into mixed drills. Texts disagree on the nature of drill organization. Some give only drill on long division in toto, others provide drill on ascending levels of difficulty and completeness. There are other disagreements but the above supports the suspicion that the fundamental teaching of long division is open to great improvement.

That this report may be positive instead of negative the remainder of the report will lay down certain positive suggestions. These suggestions are supported by an investigation on the teaching of long division conducted by W. C. Findley, elementary school principal, Des Moines, Iowa. These are the specific steps in long division requiring definite instructions and the order is as follows: (a) The form of long division, (b) six steps in the process, (c) check for accuracy, (d) words to use in talking about division, (e) examples which involve carrying in the multiplication, (f) examples which involve borrowing or carrying in the subtraction, (g) examples which involve *both* carrying and borrowing, (h) first insertion of remainders, (i) first insertion of zeros in the quotient, as 406 or 506, (j) double zeros in the quotient, as 4006 or 6003, (k) final zeros in the quotient, as 460 or 530, (l) first appearance of non-apparent quotients, (estimated quotient figure but one unit away from true quotient, then two units away, then three units away), and (m) first insertion of three-digit divisors.

It goes without saying that problem work as well as example work is to be provided all along the way. Further, as soon as any item is taught it must be inserted into mixed drills which call for all items so far developed.

By studying frequency of errors made by pupils *during the learning process,* Mr. Findley has obtained objective data upon which to base determination of proper amounts of drills for pupils of varying ability.

The very genuine reduction of strain in teaching, of increase in interest, and of increase in sheer efficiency when material of proper construction is used leads us to maintain that probably the greatest advance in the teaching of long division is to come through the use of better material, rather than through the use of greater efforts by teachers or longer hours of study. Space forbids further discussion, but the reader might well consider for himself probable answers to the seven questions asked at the foot of page 211.

STUDY NO. 2. Greene, H. A. *Criteria for Remedial Drill in Arithmetic.* Report presented to the Arithmetic Committee of the 1926 Yearbook.

Effective drill material in the field of elementary school arithmetic must provide for (1) the proper kind and number of repetitions for the *initial mastery* of the basic skills involved, as well as, for (2) the *maintenance* of that mastery after special instructional emphasis has been discontinued by using (a) properly distributed general practice over the complete function, or (b) by locating the specific points of weakness and correcting these by selected remedial drill. While these functions of drill appear to point to the same goal, the methods of achieving that goal are somewhat different.

The exercise of skills for the purpose of bringing about effective initial learning merely emphasizes the instructional value of drill material. The recognition of the need for materials serving this purpose has become so general that considerable commercial material is now available to supplement that provided for instructional purposes by teachers and textbooks. The organization of the arithmetic work in many schools is such that skills supposed to be mastered prior to the end of the fourth grade are never brought to the attention of the upper grade pupils in more than a haphazard way, if at all. Dependence upon incidental practice to maintain learning at a permanent level is futile. Permanent mastery demands continued exercise of the functions through the use of drills such as meet the specifications set up in Chapter III, Section III of the *Third Yearbook* of the Department of Superintendence.[1] Material constructed along these lines meets the *practice* aspect of drill.

Probably the most economical method of maintaining the desired level of permanent mastery of arithmetical skills is to be found in the diagnosis of individual weaknesses of pupils and the application of specific corrective drill. Material of this kind, which is fundamentally *remedial,* must be built upon carefully-written specifications.

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[1] Knight, F. B. "According to What Criteria Should Drill be Organized?" *Third Yearbook,* Department of Superintendence, National Education Association, 1925. p.63-91.

A. Criteria for Remedial Drill

1. *Analysis must precede diagnosis*—The development of effective remedial drill in arithmetic is dependent upon the accuracy and detail with which the various skills contributing to achievement in this field are isolated and identified. The psychological defense[1] for this is that on the whole a pupil learns what he practices not something else, even if the something else is logically identical. Remedial work can function only when the exact level at which pupil mastery breaks down has been located. Thus the analysis must be extremely detailed. A recent analysis recognizes more than ninety distinct measurable skills. It is probable that there will be little agreement among authorities as to the exact identity of these specific skills. Undoubtedly they are not the only significant aspects of successful achievement in arithmetic. However, careful observation and intensive research both indicate that they represent the basic skills to such an extent that a remedial program built upon a diagnosis resulting from general observation, or a testing program carried to no greater refinement than these skills permit, would confront the child with adequate drill on his major weaknesses in arithmetic.

2. *Diagnosis must be specific*—While it is not the function of this discussion to treat the method by which the diagnosis is obtained the problem is so important that it can not be passed without brief comment. Whether the picture of the strengths and weaknesses of the individual pupil is obtained by general observation or by the use of highly detailed diagnostic tests is not the question. The important feature about the diagnosis is that *accurate* and *reliable* information on each basic arithmetic skill must be obtained in order to make possible the prescription of the proper remedial treatment. Diagnosis must be much more exact than broad statements of general functions. It is not enough to discover that the child can not add. The exact nature of his addition difficulty must be revealed before the proper remedy can be applied.

3. *Each identified skill must be paralleled by valid drill*—Drill material of known validity must be provided for each specific skill which contributes significantly to achievement in the field of the subject if remedial work is to be effective. The validity of the drill depends to a certain degree upon the accuracy and detail with which the analysis of skills is made. Difficulties in fields which can not be identified can not be remedied except by mere good luck or by the use of so-called "blunderbuss methods." Often times this is effective due to the fact that a large enough charge of remedial drill fired in the general direction of a weakness is likely to strike a weak spot by pure chance. Thus it seems evident that drills which do not closely parallel the skills which they are supposed to remedy can not function effectively.

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[1] [illegible] W. M. *Transfer within Narrow Mental Functions.* Doctor's Dissertation in process of publication. University of Iowa, 1925.

Perfect validity of drill material may be achieved only by taking a sampling of 100 percent of all the possible facts. This is clearly impossible in many cases, but it is often possible to take such a large sampling that all of the most frequently used facts are included. An illustration of this principle of perfect sampling is shown in Table 7, an analysis of a remedial unit covering easy subtraction combinations with no borrowing or carrying. There are 55 possible combinations by which 0 to 9 may be subtracted from 0 to 9 without involving borrowing or carrying. In this remedial unit

TABLE 7.—ANALYSIS OF REMEDIAL UNITS

		Remedial Unit No. 27 Easy Subtraction No Borrowing or Carrying Minuend										Remedial Unit No. 31 Subtraction Involving more than one Borrowing or Carrying Minuend								
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
S	0	2	2	2	2	2	2	2	2	2	2	*	*	*	*	*	*	*	*	*
u	1	*	2	2	2	2	2	2	2	2	2	1	*	*	*	*	*	*	*	*
b	2	*	*	2	2	2	2	2	2	2	2	1	1	*	*	*	*	*	*	*
t	3	*	*	*	2	2	2	2	2	2	2	2	1	*	*	*	*	*	*	*
r	4	*	*	*	*	2	2	2	2	2	2	1	1	2	1	*	*	*	*	*
a	5	*	*	*	*	*	2	2	2	2	2	1	1	1	1	2	*	*	*	*
h	6	*	*	*	*	*	*	2	2	2	2	1	1	1	2	2	2	*	*	*
e	7	*	*	*	*	*	*	*	2	2	2	1	1	1	2	2	2	2	*	*
n	8	*	*	*	*	*	*	*	*	2	2	1	1	2	1	2	2	2	2	*
d	9	*	*	*	*	*	*	*	*	*	2	1	2	1	1	2	2	2	2	2

Distribution of Differences (Answers)	Differences by Integers	Distribution of Differences (Answers)	Cases of Borrowing from
N	N	N	N
0–5	0–18	50–1	0– 0
5–3	1–20	100–4	1– 6
10–7	2–16	150–3	2– 2
15–3	3–13	200–6	3– 1
20–7	4–12	250–4	4– 5
25–3	5–11	300–3	5– 3
30–5	6– 8	350–3	6– 9
35–3	7– 6	400–1	7–10
40–4	8– 4	450–6	8–11
45–2	9– 2	500–0	9– 8
50–6	——	550–5	10– 0
55–1	110	600–0	11– 2
60–2		650–2	12– 1
65–1		700–0	13– 1
70–2		750–3	14– 0
75–1		800–0	15– 1
		850–3	
55		900–0	60
		950–1	Sixty operations in borrowing 45 seen 15 unseen
		—	
		45	

each combination is sampled twice, so that the child has two opportunities to meet each combination arranged in simple subtraction exercises such as

$$\begin{array}{rrrrrrrrr} 47 & 68 & 99 & 44 & 93 & 37 & 39 & 57 & 19 \\ -21 & -44 & -46 & -43 & -20 & -27 & -13 & -20 & -17 \\ \hline \end{array}$$

An examination of Table 7, that section dealing with the analysis of remedial drill unit Number 31, will provide an illustration of a distribution of drill for a slightly different skill. This unit covers subtraction involving more than one borrowing or carrying. In this material, which provides drill on 45 such subtraction exercises as

$$\begin{array}{rrr} 253 & 829 & 1575 \\ -196 & -450 & -586 \\ \hline \end{array}$$

all but one possible combination is presented once and the more difficult ones appear twice.

4. *The complete area of the skill must be covered*—In correctly designed remedial drill it is not only essential that the correct skills be identified and paralleled with valid drill but it is equally important that all of the aspects of the skill be covered. Remedial drill in subtraction should cover all types of subtraction situations. Furthermore, it should acquaint the child with the most important variants of each situation. For example, provision for drill on carrying or borrowing in subtraction must be made. It is equally important, however, that experience with different kinds of borrowing should also be provided. The analysis of remedial unit Number 31 in Table 7 affords an illustration of this point. This unit provides drill on 45 exercises, in which there are 60 operations in borrowing, 45 of which are apparent to the child and 15 of which are not seen until after the first operation has taken place. Furthermore, the differences (answers) are so distributed in this unit that the child has contact with differences ranging from between 50 and 100 to between 950 and 1000.

5. *The underlying skills must be synthesized*—Remedial drill must not only cover in a valid manner all of the numerous underlying skills but it must provide the means for bringing about the gradual synthesis of the components into the total function. It is conceivable that mastery of subsidiary skills might still result in limited mastery of the end-product if that goal were not reached by the gradual building up of the whole process one skill at a time. This point may be well illustrated by referring to the specific skills upon which achievement in long division is conditioned. A tentative analysis reveals the following levels at which the breakdown may take place:

a. Vocabulary and form of long division.
b. Fundamental division combinations.
c. Carrying in division.
d. Multiplication in long division.
e. Addition involved in long division.
f. Subtraction involved in long division.
g. Estimation of quotient figures.

From this it seems that there are probably seven basic skills which must be practiced in order to master the various steps in long division. However, it has been found that at least ten more remedial units on the total function are needed to approximate an adequate synthesis of these skills into the complete process.

6. *Time and achievement standards must be provided*—The provision of time and achievement standards for remedial drill material introduces speed as a powerful motivating agent, and at the same time permits the evaluation of the product in terms of units of time. More important than either of these, however, is the fact that only by means of the use of standards is the pupil enabled to discover for himself when he has reached a reasonable level of proficiency as a result of drill on a specific skill. However, provision for individual differences is just as important, possibly more important, than the setting up of standards.

B. Scope of the Possible Remedial Program

A definite notion of the detail with which units of remedial drill may be developed to parallel specific arithmetic skills is given in the following catalog of skills dealing with the four fundamental operations with whole numbers. The possibility of preparing drills for the correction of specific difficulties in fractions, decimals, denominate numbers, mensuration, percentage, business practice, problem solving, and problem analysis represent the broadened scope of remedial materials.

TABLE 8.—SUGGESTED CATALOG OF REMEDIAL UNITS

As a result of diagnosis by general observation or by testing showing unsatisfactory work in	Use following remedial units
ADDITION OF WHOLE NUMBERS:	
Basic addition facts	1
Higher decade addition	2,3,4
Column addition	2,3,4,5
Carrying in column addition	5,6,7
SUBTRACTION OF WHOLE NUMBERS:	
Basic subtraction facts	26
Harder subtraction	26,27,28,29,30,31
MULTIPLICATION OF WHOLE NUMBERS:	
Basic multiplication facts	51
Additions used in multiplication	1,2,3,4,52
Carrying in addition used in multiplication	52,53,54,55
Fundamentals of multiplication	56,57,58,59
DIVISION OF WHOLE NUMBERS:	
Fundamentals of short division	76,77
Short division with carrying	78,79,80,81,82
Multiplication, addition, and subtraction used in division	1,26,27,28,29,30,31,51,52
Estimating quotient figures	88,89,90,91
Fundamentals of long division	83,84,85,86,87,88,89,90,91,92

The following list gives the descriptive titles of the remedial units suggested in Table 8.

Remedial Units by Number

Addition

1. The hundred basic addition facts.
2. One hundred fifty higher decade combinations; adding 0, 1, 2, 3, and 4 to 10 to 39 inclusive.
3. One hundred fifty higher decade combinations; adding 5, 6, 7, 8, and 9 to 10 to 39 inclusive.
4. One hundred fifty higher decade combinations; adding 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 to 40 to 49 inclusive, and 5, 6, 7, 8, and 9 to 30 to 39 inclusive.
5. Introducing easy carrying in addition.
6. Carrying, varied types; three addends.
7. Carrying, varied types; four or more addends.

Subtraction

26. The hundred basic subtraction combinations.
27. Easy combinations; no borrowing or carrying.
28. Harder combinations; no borrowing or carrying.
29. One borrowing or carrying; differences less than ten.
30. One borrowing or carrying; differences eleven to nineteen inclusive.
31. More than one borrowing or carrying.

Multiplication

51. The hundred basic multiplication combinations.
52. The harder one hundred fifty higher decade addition combinations involved in carrying multiplication.
53 The easy eighty-two of the three hundred sixty multiplication and addition combinations involved in carrying in multiplication.
54. The one hundred forty multiplication and addition combinations of medium difficulty involved in carrying in multiplication (360 in all).
55. The hardest one hundred thirty-eight multiplication and addition combinations involved in carrying in multiplication (360 in all).
56. Simple multiplication; introducing carrying.
57. One- and two-figure multipliers; no zero difficulties.
58. Three- and four-figure multipliers; no zero difficulties.
59. Two-, three-, and four-figure multipliers involving zero difficulties.

Division

76. The hundred basic division combinations.
77. Short division without carrying.
78. The first ninety of the 360 short division examples with remainders.
79. The second ninety of the 360 short division examples with remainders.
80. The third ninety of the 360 short division examples with remainders.
81. The fourth ninety of the 360 short division examples with remainders.
82. Short division with carrying.
83. Estimating quotients; all quotients apparent.
84, 85, 86. Estimating non-apparent quotients.
87. Multiplication and subtraction involved in long division.
88, 89, 90. Completing long division.
91, 92. Long division—complete process.

C. The Scope of Remedial Work in Arithmetic

The efforts of the builders of arithmetical practice material for commercial distribution have been largely confined to the preparation of *instructional* and *practice* material having for its purpose the facilitation of learning and the maintenance of general mastery. The remedial function of drill has been somewhat neglected until quite recently. But there are now available sets of practice exercises designed for remedial purposes.

STUDY NO. 3. Buswell, Guy T., and Judd, Charles H. *Summary of Educational Investigations Relating to Arithmetic.* Supplementary Educational Monograph No. 27, University of Chicago. June, 1925. 212 p.

Purpose. To summarize articles and books which report scientific investigations of the methods and results of the teaching of arithmetic.

Method. A bibliography was built up through a canvass of every available source of reference. Copies of 600 references were collected. After reading all of the materials collected, the authors eliminated all of the items which seemed to them not to merit the description scientific or historical. The final bibliography of publications summarized includes 307 references. These report objective data, more or less critically gathered, on the various problems which arise in the organization of arithmetic teaching.

Results. The summary consists of one hundred and sixty-five pages and is followed by a thirty-nine-page bibliography, containing three hundred and twenty titles, all of which are briefly commented on. Findings are summarized under the following general topics: Content and Administration of the Curriculum in Arithmetic; Investigations of Textbooks and Exercise Materials; Tests and Measurements in Arithmetic; The Nature of Arithmetical Processes; Drill; Individual Differences and Remedial Methods; Methods of Teaching; Transfer of Training and Relation of General Intelligence to Arithmetic; Relation of Arithmetic to Reading; and History of Arithmetic.

This summary is unusually discriminating and helpful. It gives in addition to the main points made by investigators, pointed applications.

STUDY NO. 4. Schorling, Raleigh. *A Tentative List of Objectives in the Teaching of Junior High School Mathematics*—With Investigations for the Determining of their Validity. Publisher, George Wahr, Ann Arbor, Michigan. 1925. 137 p.

Purpose. What practical steps could be taken to increase the efficiency of mathematics instruction in grades seven, eight and nine?

Method. A tentative list of 519 objectives for seventh, eighth and ninth grade arithmetic was reduced to 454 specific elements under the classification: attitudes, concepts, abilities, and items of information.

Findings. The basic list of objectives finally selected represents a course of study that is definite. It includes many of the new things that have been advocated in the movement for the reorganization of mathematics.

STUDY NO. 5. Herriott, M. E. *How to Make a Course of Study in Arithmetic.* University of Illinois Bulletin, Vol. XXIII, No. 6, Educational Research Circular No. 37, October 12, 1925. University of Illinois, Urbana, Illinois. 50 p.

Purpose. To indicate the application to arithmetic of the general technique of course of study making; and to furnish a working basis and a guide to those who are making or revising the course of study in arithmetic.

Outline of plan suggested. In order to provide a general view of the content and organization of a course of study in arithmetic, this bulletin first presents an outline of an arithmetic course of study. The different divisions of this outline, such as: General objectives of arithmetic, specific grade objectives, grade time allotments and suggestions relative to instruction are each considered in detail.

STUDY NO. 6. Brown, J. C. "A Summary of Some Significant Conclusions Reached by Investigators Relative to Arithmetic." *The Elementary School Journal,* January, 1925. p. 346-357.

This article presents a carefully prepared, but brief, summary of the scientific studies in arithmetic bearing on the problem of the curriculum.

The author's mastery of the subject of arithmetic enables him to set forth the main points of available studies with judgment and perspective.

The chief contributions of Rice, Stone, Woody, Kirby, Bonser, Courtis, Counts, Myers, Knight, Holloway, Osborn, Thorndike, Clapp, Wilson, Mitchell, and Wise are briefly noted.

STUDY NO. 7. Hamilton, E. R. "Insight and Skill in Arithmetic." *Journal of Educational Research,* September, 1925. p. 136-144.

This article indicates the need for the use of judgment in determining the larger considerations involved in arithmetic work. It gives warning that many of the details of the statistical studies may relate to matters of minor importance. The author, who is connected with the Education Department, University College of North Wales, recognizes the leadership of America in these statistical studies. His warning is well expressed in the following quotation:

> They first try to find out, by analysis and experiment, what skills are involved in studying the subject; and then, putting aside further consideration of the raison d'être of the subject as part of the general curriculum, they take up the secondary question of how those skills can be developed. They are then very soon engrossed in the investigation, frequently statistical, of some brand of pedagogical mechanics, and they virtually cease to think about education.

STUDY NO. 8. Wilson, Guy M. *Motivation of Arithmetic.* U. S. Bureau of Education Bulletin No. 43, 1925.

Purpose. To make a summary survey of practices of motivation of arithmetic throughout the country.

Method and results. A letter was sent out by the United States Bureau of Education asking that samples of motivated work be submitted. These samples, over 5000 in number, have been evaluated, classified, and worked into the bulletin in such a way as to give a more or less complete scheme and evaluated scale of motivated work.

CHAPTER VIII

HEALTH AND PHYSICAL EDUCATION

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Outline of the Report[1]

I. Introduction.
   Status of health and physical education as a subject in the curriculum. Problems arising from this status.
II. Scope and Content of the Field.
   A. Health Service.
      1. Health examinations.
      2. The follow-up program and correction of remediable health defects.
      3. Daily health inspection.
      4. School sanitation.
      5. First aid and safety provisions.
      6. Immunization of school children against infectious and communicable diseases.
      7. Hygiene of instruction.
      8. Health of teachers and other employees.
   B. Health Education.
      Program of instruction relating to health habits, attitudes and knowledge of pupils—individual and community.
   C. Physical Education.
      Program of activities intended to contribute to general development and education through the attainment of specific objectives belonging to physical education.
III. Suggested Outline for Making a Course of Study for Health Education or a Program of Activities for Physical Education.

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[1] In connection with the preparation of this report the chairman wishes to make grateful acknowledgement to those who have returned the questionnaire and have forwarded material for examination. He also wishes to express his appreciation to the members of the committee for their suggestions and articles and to Mr. Roscoe L. West, assistant commissioner of education of New Jersey, formerly director of elementary schools, city of Trenton, N. J., for his assistance and criticism.

A. Value of the subject.
B. Objectives of the subject.
C. Subject matter and activities.
D. Method and procedure.
E. Attainments and standards.
F. Bibliography and teacher helps.

IV. The Main Problems in Making Courses of Study in this Field—A study of the result of investigations made by the Committee.

V. Description of the Experiment in Health Education Conducted at Malden, Mass.

Introduction—The content and activities listed under the term "Health and Physical Education" constitute a relatively new part of the curriculum. In certain sections of the country these phases of the curriculum have been thoroughly introduced. In many communities practically nothing has been accomplished. Even in sections where health and physical education are recognized as important elements of the entire school program, lack of equipment, of supervision and of teacher training have retarded progress. We find that even in so-called "progressive" school systems the program of health and physical education is still considered an experiment.

As a result of this condition it cannot be claimed that, either by research or by experience, have we arrived at a desirable understanding of the scope, objectives, content and procedure in this field. Much excellent research work has been done. Isolated school systems have an effective organization and have worked out courses of study. We have not evolved, however, any unity of knowledge in regard to the problems faced. A review of the courses of study already published shows a wide variation in objectives, in content and activities, and in method of procedure.

Before those responsible for constructing courses of study can accomplish anything worthwhile it is necessary to understand the scope of the field and its division as determined by the nature of the content and activities included. There exists apparent confusion as to the meaning of terms employed and the type of function which should be performed by the various people who come in contact with the program of health and physical education. For example, great confusion will be found concerning the practice in school systems as to the direction of health teaching. Some school systems have linked this phase of the work with the Department of Medical Inspection. Others have introduced special teachers in order to attempt to assist regular teachers or even to take the work out of the regular teachers' hands. There is great variation in the objectives of physical education and in the procedure employed by different school systems to reach their objectives. Many school systems have clung to certain formal types of gymnastic exercises without being able to justify these from the point of view of proper educational goals. These and many other variations might be mentioned to prove that even where the importance of health and physical education has been recognized no definite program based on sound educational principles has been evolved.

To attempt to formulate courses of study and detailed procedures before understanding the scope and content of the field which we are considering will simply add to the present confusion. Therefore, the first section of this report is presented for the purpose of making clear the connotation of certain terms which are often used glibly but meaninglessly. This section of the report was prepared by Dr. Thomas D. Wood of Columbia University, a member of the committee.

Scope and Content of the Field of Health and Physical Education

The heading *Health and Physical Education* refers to certain forms of service and instruction in schools, which are combined in various ways for convenience and efficiency in supervision and administration.

Health and Physical Education as an administrative department includes logically these three phases: (a) health service, (b) health education, (c) physical education.

A. HEALTH SERVICE is a convenient term to cover the various protective measures adopted by the school to conserve and improve the health of the children. These measures and procedures in health service do not primarily depend upon, or involve the knowledge, responsibility, or activity of the pupils themselves, but at many points in the program of health service, situations occur which provide very important items and opportunities for the health education of the children. Health service or supervision includes then, the following phases of health protection and health promotion:

1. *Health examinations*—The majority of the schools are conducting various programs, more or less complete and thorough, in examining, measuring, and testing the growth and health of children in the schools. In this health examination should be included the weighing of school children. Every growing child in the schools should be weighed once a month, and the weight should be recorded in the health record of the pupil. It may be advisable, for undernourished children or those otherwise handicapped, to weigh them more frequently than once a month. The school child should be measured for height, desirably once every three months, or two or three times during each school year.

An annual health examination should be given each child just as soon as qualified examiners are available, taking into account aspects of physical, mental, emotional, and social health. The periodic annual health examinations should be made by physicians, if they are available, physicians who are interested in, and qualified to make health examinations. In communities where it is not possible to find and employ such physicians, the preliminary personal health survey should be made by the best trained available non-medical health examiners. This type of preliminary health-screening survey should be used to detect and select pupils with apparent health defects who should be promptly referred to physicians for technical diagnosis and treatment. The grade teachers should be well trained for their part of the health service program. This program of health examinations should be carried out in the school, as it is fundamentally important for the school to recognize health as the first essential, concrete objective in the education of the child; and it is further, the function of the school to find out whether the child is healthy; to promote positive health in every possible way; and to institute or recommend measures for the removal of all remediable health defects of school children.

2. *The follow-up program and correction of remediable health defects*—Some of these discovered defects may be corrected in the school itself; such as (a) certain conditions of malnutrition; (b) functional defects of posture and other orthopedic defects; (c) defective mental and emotional habits, which are increasingly recognized as of great importance in the health of the school child, and which in incipient stages and in milder forms may be, and should be, treated and corrected in the school itself.

The more serious health defects, requiring medical and surgical treatment, must be attended to outside of the schools. However, the school has a very important health service to perform in bringing knowledge of defects found in the school to the attention of parents, physicians, health authorities, and social agencies; and in promoting cooperation of all of these agencies for the correcton of all the remediable defects discovered.

3. *Daily health inspection*—This phase of health service is to discover whether the child is in good enough health to be in school that day, with reference to his own welfare and educational progress; and also to determine whether the child shows signs of health disturbance indicating the possibility of his conveying to other pupils some form of communicable disease, by his presence in school.

The school, in its very nature, is completely constituted to act as a disease center, as assembler and distributor of children's diseases in the community. An intelligent and efficient daily health inspection is the key to the entire problem of making the school, in relation to the prevention and control of communicable disease, a successful center of health control and health influence. While medical inspection is a function of the trained physician, and while the next professional type of inspection may be carried on by the properly qualified nurse, it is increasingly recognized that adequate health inspection in the schools will not be provided until the parents and the classroom teachers give their aid, with a reasonable amount of training, to the daily health inspection of school children.

The entire modern idea of daily health inspection of school children centers (a) in detecting early signs of health disorders; (b) in excluding children from the school who present certain recognized signs of health disorder or disturbances, and (c) in readmitting school pupils after any type of illness by consistent enforcement of adopted regulations, approved by local health authorities and embodying standards of the best medical practise.

4. *School sanitation* is concerned with the factors affecting health in the school plant and its surroundings; in construction, equipment, and maintenance. This phase of health service and protection includes the location of the school; the construction and equipment of the school building; matters relating to fresh air and ventilation; water for drinking and washing; lighting; technical equipment in the furniture of the school room, blackboards and other items of permanent and fixed equipment; and also the cleaning of the school building and rooms. Provisions in the fixed and permanent school equipment relating to fire protection belong, of course, to school sanitation. School sanitation is the hygiene of environment.

5. *First aid and safety provisions*—This phase of health service includes the first aid outfits and the trained skill of school officials and teachers in meeting emergency situations. The safety features of health service very obviously overlap, at many points, school sanitation and the hygiene of instruction. Safety education also should form an important part of the health education of school children.

6. *Immunization of school children against infectious and communicable disease*—It is recognized today that protection of school children by isolation, quarantine, and forms of immunization against communicable diseases, are as important for the life and health of the child as the entire range of personal health habits and other phases of personal hygiene. The school, therefore, has a very important function to perform in promoting and carrying out, in every way, a program of immunization. This would include regulations and service of the schools with reference to vaccination against smallpox; advocacy and use, when possible, of the Schick Test for diphtheria, and the immunization against diphtheria by the recognized treatment for those children who are not already protected; the use of the Dick Test for scarlet fever, and the corresponding immunization against this disease which is now being carried out in progressive communities. This program of immunization will include also the advocacy and promotion by the school of all of the features recognized and used today in relation to the prevention and control of diseases among school children.

7. *The hygiene of instruction*—This includes the hygienic administration and management of the school with reference to all conditions and phases which have not been considered under the care of the personal health of the children, under first aid and safety, and other measures already mentioned. The hygiene of instruction relates to such items as length of the school day, number and sequence of subjects in the program of the school day, frequency and length of recess periods, question of home study, kinds of instruction, examinations, tests, forms of discipline, and all other items in the program and administration of the school which may affect health.

8. *Health of teachers, of janitors or custodians, and other school officials and employees coming in contact with school children*—Progressive school systems are instituting and carrying out practical measures for the health examinations and health supervision of teachers in the school. This involves a program of health service for teachers corresponding in

general to the features of health service for pupils. It will be readily apparent to those who consider this problem of school health that the factors of example and influence of teachers, determined by their own health, will have fundamental and vital effects upon the health of their pupils, particularly upon nervous, mental, and emotional well being. To meet this developing health supervision of teachers in service, progressive teacher training institutions are rapidly establishing programs of health service, health education and physical education for their professional students.

All the phases of the program described under health service and health protection are intended to put each school child into the best possible condition of health, and to prepare the pupil for the general process of education. One important and fundamental phase of the program of education and instruction relates to the second part of the combined program of health and physical education.

B. HEALTH EDUCATION is the sum of experiences, in school and elsewhere, which favorably influences habits, attitudes, and knowledge relating to individual, community, and racial health.

Conscious provision should be made in the curriculum for health education each year, each month, each week, and each day in the school life of the child in the kindergarten and elementary school. It may be stated here that the same general provisions should also be made for health education in the junior and senior high school, and in the teacher training institutions.

Health instruction and training of pupils in the elementary schools should be given, for the most part, by the grade teachers; and it is desirable that practical instruction and training in health should be given directly and informally wherever favorable opportunity arises for application to health. It is also important in this connection, to remember, as stated in the report on health education,[1] of the Joint Committee on Health Problems, "that health education can be promoted only by emphasizing all aspects of health: physical, mental, social, moral. A teacher of health should look for normal development of the child from all of these points of view. The ideal of health is not mere freedom from obvious deformities and pathological symptoms. It is the realization of the highest physical, mental, and spiritual possibilities of the individual."

It is desirable that a few minutes daily, or at least two or three periods each week should be provided for health instruction under this name, so long as we have subject teaching in the elementary school and a time schedule arranged with allotment of periods for the different subjects in the curriculum.

Satisfactory health education in the elementary school requires first, that every grade teacher should receive the best possible special training for his part of the health instruction, while a student in the teacher training institution. It is also increasingly apparent that practical instruction should be given to all of our elementary grade teachers in service, to enable them to deal adequately with the health education program. It is also important that efficient help through some type of supervision should be provided for the guidance of every grade teacher in the work done in health education. This is necessary to insure gradation, and the desirable sequence and progression from grade to grade in the training and instruction given in the field of health.

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[1] *Health Education.* A Program for Public Schools and Teacher Training Institutions. Report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. Copies can be secured from the National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C. Price $1.00.

In the third place, efforts in the elementary school in health education will be largely futile unless satisfactory cooperation with reference to the establishment of desirable habits, attitudes, and knowledge relative to health, is provided by the home and by the community outside of the life and experiences of the child in school.

The program of health education must take advantage of many experiences or situations in the work of health service or health supervision, and also in the instruction given in physical education activities which may be reasonably and effectively articulated with the instruction given in health education as defined in these statements.

C. PHYSICAL EDUCATION, as here considered, includes the big brain-muscle activities which are valuable in the growth and development of the child in the pre-school age, as well as in the period of elementary instruction.

Physical education is the contribution made to the complete education of the child in preparation for life by the fundamental psycho-motor (big brain-muscle activities) including play, games, athletics, gymnastics, dancing, pantomime, dramatic activities, swimming, hiking, camping, scouting activities, and similar programs. Physical educaton also logically and practically should recognize and include general life activities, practical work, industrial or social service activities, such as gardening, farming, housekeeping, etc., if they are big-muscle activities, and if they are healthful, and educative.

The aims in physical education in the minds of the teachers, parents, and other adults, should include, first, the desirable aims of the pupils, and second, the important adult aims should be recognized and utilized in determining the activities of the children.

Fundamental activities of physical education are those which may be conducted out of doors. The gymnasium should always be considered, in principle, as an emergency space in which physical education activities are carried on only when the conditions of climate and weather make it impossible or impracticable to conduct this phase of the curriculum out of doors.

It is apparent, that with the general definitions and statements given above, the fundamental goal of physical education is not physical health, but it is rather the general education and development of the child. Physical education has been considered in the past, and is still considered too largely by many as a physical health program. There should be, however, very close relation between the three phases of this triangular program of health and physical education which have been briefly described here. If the child is to do his best in the play, games, and various activities enumerated above, he must be in the best possible condition of health. This will require increasingly as the child progresses from grade to grade in the elementary school, a larger share of personal responsibility and self-control by the pupil in order that he may be in the best condition, not only for his activities in physical education, but also for all of the experiences of the school and in his life outside of the school.

In many elementary schools the grade teachers have in their teaching of the physical training activities, the guidance of a special teacher or supervisor of physical education. If this supervisor is properly qualified, help may be given to the elementary teacher by such a supervisor, not only in the physical education activities, but also in the health education program. The supervision of health education, however, requires a very much larger and more careful training in subject matter and methods of instruction in health education than most of the supervisors of physical education have as yet received. Supervision of the two subjects involves two quite independent and separate bodies of subject matter and methods of instruction, and while these overlap at many points, the distinction between them should be clearly understood.

For many reasons it seems logical that the three phases of educational effort in health and physical education should be coordinated and directed in one administrative department in the schools. However, there are so many types of professional understanding, technique and skill required in the joint triangular program that very few professional leaders possess the qualifications requisite to direct with equal understanding and efficiency the three phases of activity.

It is significant however to note the increasing share in the three phases of health service, health education and physical education in the elementary schools, which the present educational trend is assigning to the elementary grade teacher.

Suggested Outline for Constructing a Course of Study

If the definition of the scope and division of the field as presented is accepted we then note that a certain phase of the entire health program, namely, that portion connected with "health service" is an administrative problem and not a teaching problem.

The various services performed in this phase are designed to create the conditions pertaining to both the pupil and his environment which will make possible desirable mental and physical progress. There are certain elements here that touch the other aspects of health and physical education. Thus this phase bears a part in the whole teaching program. Through properly directed administration of health service the child will acquire definite facts and attitudes which will play a part in producing the final results.

To a large extent, however, the program of content and activities through which the children are to reach desired educational goals is contained in the phases entitled health education and physical education.

For these two phases, therefore, schools must formulate a course of study or a program of activities, as the case may be. Parenthetically, it should be stated that the phrase "course of study" has come to take on a meaning broader than the mere words used. A "course of study" means not only material to be studied but also activities in which the child will engage. The modern curriculum recognizes that activities as well as study lead to the goals desired. Thus, "course of study" when used in reference to physical education takes on this new and broader meaning.

The committee feels that the first service to be rendered in connection with building a course of study is to direct thinking to the main form which the course will take. This does not mean that every course of study must follow exactly the same headings. It does mean that we shall be aided in analyzing our problems clearly if we know in general how those problems should be classified to make a course which has unity and significance.

The committee proposes the following general outline for constructing courses of study in both health education and physical education.

A. Value of the Subject
B. Objectives of the Subject
C. Subject Matter and Activities
D. Method and Procedure
E. Attainments and Standards
F. Bibliography and Teacher Helps

These headings are to some extent self-explanatory. Their adoption does not limit the type of organization of material. For example, under the heading C—Subject Matter and Activities, the material may be stated in rather rigid outline form or in the form of problems or pupil projects. The exact determination of statement will depend on the nature of a particular school system, the training of its teachers and similar factors. The point to be emphasized is that a school system should order its curriculum thinking so that it knows the value of a subject, why it is being taught, what is to be accomplished, how the results can be secured and what results to expect. All of these factors contribute towards the final result. A course of study is a program of action, not merely a statement of content or subject matter. Thus, it must discuss method and procedure and must guide the users to an understanding of when satisfactory progress is being attained. It must, therefore, set up definite, specific goals.

Main Problems in Making Courses of Study in Health and Physical Education

After a school has determined on a form for classifying the topics which enter into the making of courses of study, the next step is the actual construction of the course. In the field of health and physical education the committee feels, as has already been indicated, that because of the confusion and variation now existing, an extensive collection of practices and study of these practices should be made before making an attempt to formulate exact pronouncements under the various headings of a course of study. The committee has made and examined a large number of courses from various parts of the country. The committee has also attempted to find out what are the main problems which have been faced by those who have done work in this field and by those who are now attempting to organize definite courses of study. To secure this information a questionnaire was sent to about twenty-five communities which had been reported as doing outstanding health work; also to about twenty-five other communities which had expressed a desire to receive help in this field. The members of the committee have also contributed statements of problems which they feel are outstanding. From each of these sources a list of problems has been secured under each sub-division of the course of study in the form suggested by the committee. No attempt has been made to present a complete list of problems which must be solved by those who are interested in constructing courses of study, the most pressing problems which workers at the present time are compelled to meet are listed.

An examination of these problems will aid in discovering what issues must be decided before establishing principles and procedures in these phases of the curriculum. Both research students and school officers and teachers will find that a large number of problems are still unanswered either by research or by experimental data. The definite statement of these problems should be followed by a cooperative attempt to collect all material available for their solution and to make this material usable by school systems. The problems have not been divided between the two phases of the field, namely, health education and physical education. Some of them apply to both of these topics and others are so stated that it is evident which phase of the work they concern.

Classified Problems in the Field of Health and Physical Education

A. Value of the subject:

1. To trace the evolution of the health and physical education activities showing their appearance in the curriculum, the causes behind this appearance and the elements militating against them.

2. To secure sufficient concrete material concerning value of health and physical education to elicit interest of the community.

3. To educate teachers to appreciate the real values of the subject.

4. To educate teachers and the community to understand that the health and physical education program is one of character building, not merely one to develop athletes.

5. To set forth the values in such a way as will secure space and recognition commensurate with the importance of subject.

6. To justify placing health and physical education in the curriculum as a "fundamental" subject.

7. To discover amount of time and emphasis necessary to realize the values of health and physical education.

8. To evaluate both the quality and quantity of work in this field from the standpoint of human needs. This involves the study of such things as (a) hundreds of groups of children, (b) draft of findings, (c) curricula-time allotment, (d) results of fluid grouping in relation to specific bodily needs.

B. Objectives of the subject:

1. To determine the definite, specific objectives having to do with welfare and efficiency of human machines in definite social situations.
2. To determine what general, indirect objectives should be mentioned.
3. To describe a definite basis for and method of selecting objectives.
4. To make objectives specific and definite and to adapt them to local conditions and needs.
5. To make a course of study which actually carries out the objectives.
6. To have objectives understood by teachers.
7. To determine which things, of all those which a child must do, should be promoted by the course in health and physical education.
8. To get objectives expressed in terms other than knowledge.
9. To select objectives which are proper for each grade.
10. To secure positive objectives instead of negative.
11. To express objectives in terms of practice as well as knowledge.
12. To recast the health program from a study of anatomy and physiology to one that imparts health habits for everyday life and gives physical fitness to all.

C. Subject matter and activities:

1. To determine the criteria for selection of subject matter and of activities.
2. To determine what subject matter will be of use in particular types of life situations.
3. To secure experimental data for placement of subject matter by grades.
4. To adapt subject matter to local situations.
5. To select a program in which a child's instinctive activities are considered with reference to his biologic needs.
6. To provide activities suitable for the entire student body.
7. To adjust subject matter and activities to age interests.
8. To determine relative emphasis to be given to different phases of the subject such as: (a) personal health, (b) community health, (c) physiology, etc.
9. To determine by scientific research what subject matter and what activities are necessary to arrive at the objectives desired.
10. To find subject matter which is simple and practical and activities that will function.

11. To determine what relative emphasis should be given to natural activities such as games, dances, etc., and to invented activities such as formal gymnastics and drills.

D. Method and Procedure:

1. To determine what methods are dynamic.
2. To determine the value and use of rewards and special devices.
3. To work out methods for securing cooperation of home with the school.
4. To arrive at a satisfactory plan for the successful cooperation of the doctor, nurse, teacher, and special health or physical educator in order to work out an articulated program.
5. To work out methods adapted to the varying conditions and equipment of different schools.
6. To correlate health and physical education with other subjects of the curriculum.
7. To formulate methods and procedure that will meet with social as well as the physiological needs of the child.
8. To formulate methods designed to reach the aims accepted.
9. To collect "best practices" and describe them for benefit of teachers.
10. To adapt methods and procedure to individual differences.

E. Attainments and Standards:

1. To devise methods of checking attainments in light of aims.
2. To provide for checking in social situations.
3. To provide for checking *all* of the outcomes, not merely knowledge, but also ideals, habits, attitudes and appreciations.
4. To stimulate children to measure themselves.
5. To standardize certain physical measurements and accomplishments by age, height, grade, etc.
6. To work out standard tests and measurements similar to those now used in arithmetic, reading, etc.

F. Bibliography and Teacher Helps:

1. To provide teachers with helpful descriptions of actual situations in classrooms, gymnasiums, etc.
2. To make detailed annotated bibliographies available for teacher use.
3. To indicate proper supplementary reading material in all grades.
4. To give sample lesson plans illustrating phases of the course.
5. To divide bibliographic material so that the teachers of each grade will be guided to correct material.
6. To secure teacher helps which will be simple and applicable to the teacher's particular problem.

Description of the Malden, Massachusetts Experiment in Health Education[1]

Objectives of the Studies—Many questions press for answer. Can health be taught? Would it be practicable from the standpoint of administration and the results obtained for the public schools of America to add a systematic program of health habit training to their health activities? Can this be made as natural as training in politeness and courtesy? Can such a program sufficiently motivate the school child to cause an actual improvement in his habits of living? Can it provide a means of proving to the child during the growing and habit-forming period that the way he lives affects the way he feels? Would such a program of health education sell itself to the average community without any investment of outside funds? What methods are best? We are agreed perhaps upon the advantage of such a program in its probable effect upon adult life, but will it produce a measurable improvement in the health of the child?

These questions led the Massachusetts Institute of Technology to develop some five years ago a plan for experimental study in health education within a school system. Malden, Massachusetts co-operated in the plan.

The Malden school department agreed to pay the salary of a young woman who should carry on the work of a health education program in two school buildings, and a trained worker was secured to undertake this work. We wished to give health education a fair but critical trial. It was agreed that only one half hour a week in each class should be given to health work and that the only request to be made of the room teacher was that she turn over her class for this length of time. Furthermore, it was agreed that, should health education interfere with school work and meet the disapprobation of teachers and parents, we would discontinue the whole project upon two weeks notice. We were to work in health habit training only; the medical and nursing services were to continue without change.

We elected to work with the middle grades because these children have a more definite and critical reaction to a new school procedure than do primary children, because a change in habits at this age is more significant and because the methods of working with children of this age had not received so much study as methods for primary grades. We began work with three fourth grades, three fifth grades and three sixth grades in two school buildings (Faulkner and West), selecting as an *observation* or *control* group the two fourth grades, three fifth grades and two sixth grades in two other school buildings where the children seemed most comparable.

An advantage of this method of procedure lay in the fact that -provided the work proved sufficiently practicable to be allowed to continue—the special teacher could install a habit training program more promptly by working directly with the children than would be possible for a supervisor of health education who works entirely through the teachers. The experiment was also unique in that, since no funds were brought in from outside, it was an attempt to see what a typical American community could do for itself in the way of health education.

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[1] Prepared by Professor C. E. Turner, Massachusetts Institute of Technology, from data which were reported in the American Journal of Public Health of May, 1925.

This is not the place to discuss health education methods in detail. We have tried all of those procedures which have been suggested and such devices of our own invention as seemed to hold promise.

Our children were weighed monthly and measured three times a year. The children who were more than ten percent underweight enjoyed the privilege of a special "health habit conference" with the health teacher in order to determine what habits were wrong and to enter more promptly upon their correction. Gradually the room teachers have voluntarily taken over these conferences and in addition they have correlated health with the other school activities and have undertaken countless projects adaptable to their particular grades. After one year the program was extended to all the grades in these two buildings.

In a recent report secured from the teachers, we requested them to number certain activities in the order of their importance in securing health improvement. The general consensus of opinion of the twenty five teachers placed these devices in the following order of importance: (1) Classroom teaching, (2) weighing and measuring, (3) individual work with underweight children, (4) morning inspection, (5) scrapbooks, posters and similar devices, (6) competition, and (7) correlation. Each of the first four activities mentioned was regarded as of first importance by one or more of the teachers, but there was widely diverse opinion as to the importance of each procedure. The writer, perhaps, would have placed them in another order of importance, but the reports clearly indicate that no one educational method, or device, is most important in the eyes of all teachers. In health education as in other procedures the program must not be too rigid to allow for individual initiative.

Various methods have been tried and according to their success they have been maintained, abandoned, or revised and tried again. Our fifth grade program of study based upon three years of experimental work was published in 1924.

Estimating results—Various methods have been suggested for measuring the results of a health education program. Our data on this subject may be included under four heads: (1) Direct observation, (2) opinion of the people concerned, (3) individual health records, and (4) group records of growth.

Practicability proved—At the beginning all of the class work in health education was done by a specialist. At the present time the grade teachers are voluntarily doing most of the health education work themselves. (This is as it should be because the classroom teacher for many psychological, strategic, and administrative reasons must be the cornerstone of the health education program.) They believe that health training is a normal part of school teaching and have indicated most interestingly which activities they would carry on should they be transferred to a school system where there was no systematic health education program. In answer to the question as to whether "some children have improved in school work as a result of better health habits" eighteen of the twenty five teachers said "yes". The others indicate that their classes have been with them but a five-month period and that it is too short a period in which to judge school improvement in individual children. The average judgment of those teachers who indicate a definite percentage is that 44 percent of the children have shown school improvement as the result of health education. The suggestions, criticisms and constructive work of the teachers in developing this program have been most valuable. Health education is a procedure to supplement, not supplant, other school health activities. Physicians and nurses regard it as a direct aid to their work.

Habit improvement—It is well known that campaigns to improve cleanliness and posture among school children yield definite results. We would have done well to have recorded the number who fell below a certain standard in both of these respects when our campaign began and again at the present time. Such observations were made in a campaign to reduce the amount of nail-biting. In six typical classes of approximately thirty-five children each, there were sixty-one children whose nails were badly bitten. Subsequent inspections a year later showed that forty-one of these children were cured of the habit.

For some years the Malden schools have encouraged underweight children to bring twenty-five cents each week for daily milk and cracker lunches at recess. Without any special campaign the number of children using milk increased from 150 to 285 within the first year of our work, and it has remained at about that figure. This represents an increase in the number of children taking milk from 16 percent to 30 percent. The average percentage of children taking milk in the other schools is 17. About 7 percent of the children in the observation or control group have milk at school.

Eighty percent of 300 children's habit questionnaires sent to parents were returned. Three or four were not filled out but carried some such statement as "I approve of all this." But 233 of these questionnaire letters were filled out completely by "yes" or "no" answers. These answers indicated that, in the judgment of the parents, from 40 to 80 percent of the children had improved in the various habits specified and that they had improved in health as a result.

In June of 1924 a questionnaire comparable to that used by the American Child Health Association in the survey of 86 cities, was given to 322 children who had had health teaching and who were then in the seventh and eighth grades and to 226 children of the control group. The data from the questionnaire showed distinctly better habits among the children having a health education program than among the others.

We asked all children to write on the back of their questionnaire the health habits in which they had improved during the last three years. In the health education group 3 percent of the children said they had made no improvement in health habits. In the control group 23 percent of the children recorded no improvement.

Health improvement—If the reader has been engaged in health education work he will recognize that this training program does not *slightly* raise the health level of *all* children, but rather produces *distinct* benefits in many children. Every one of our twenty-five teachers answered in the affirmative the question "Do you think that health teaching has been an aid in actually improving the health of some of the children?"

Many individual cases could be cited in which the child, who was pale, thin, and tired, has improved his diet, increased his sleep and rest, overcome constipation, increased his liquid intake, or in other ways improved his habits with a resultant improvement in color, weight, alertness, and cheerfulness. For such children there are growth charts of the type commonly used by nutrition classes showing the child emerging from the underweight group, and there is the testimony of the teacher and the parent for the improvement in the general health and school work of these children. Space does not permit here the discussion of individual cases.

Growth records—As indicated above physical measurements have been taken for the purposes of studying growth. These studies confirm the earlier investigations upon the seasonable variations in growth. Studies upon the intermittency of growth and its significance are being made but cannot be reported here.

Of the 273 children in our experimental health classes approximately 48 percent were of native stock, 13 percent of Italian parentage and 39 percent of Jewish parentage. There was no appreciable difference in the nationality groups as between boys and girls. Approximately 81 percent of the control children were native stock, 9 percent Italian and 10 percent Jewish. These children are practically all native born. Some of the Jewish and Italian parents are native born, but the majority of them are not.

Weight—Of the various measurements which may be applied, weight is the most exactly determined, the most variable and the most subject to change because of change in the regimen. *Data* concerning the nature of these groups are given in Table 9, page 237.

The average age of the experimental group seems to be slightly greater than that of the control group. The average is not a very satisfactory figure, however, with which to work. A more exact and understandable figure is that obtained from studying the expected gain on the basis of age. By multiplying the number of boys or girls of each age year by the expected gain in ounces per month the average or expected gain on the basis of age for any particular group of children may be secured. This figure interprets the difference in age between two groups in terms of expected gain. Such computations were made for both the boys and girls in the experimental and the control groups. For the second year the ages of each group were set ahead one year and a similar computation made.

The expected gain for each group for the twenty-month period was determined.

The difference in growth rates of boys as contrasted with girls tends to obscure the significance of figures when these groups are treated together. Upon this basis the results of the health education program would appear more favorable than they really are. Boys and girls are therefore treated separately in the figures here presented.

The two groups of boys studied, one with health education and one without, are remarkably comparable. If there is any difference in home conditions it is in favor of the control group. The mean weight for the experimental group is 73.5 lbs. ± 0.7, for the control group 74.0 lbs. ± 1.1.

Using these averages as describing a composite boy we may consider that we were studying the growth of two boys. In October, 1921, boy "A" undertakes a program of health training. Boy "B" does not. Both children are below average weight for their height and age according to the Wood standard (96 percent normal). Although "A" is a little older "B" is a trifle taller and half pound heavier. "A's" expected gain for a twenty-months period on the basis of his age alone is 12.7 pounds and "B's" expected gain is 12.4 pounds. "A" increases his amount of sleep and occasionally takes a rest period during the day. He has more milk, more fruit and vegetables, is more careful to eat a good breakfast; he spends more time out of doors, eats less candy between meals, drinks less tea and coffee and takes more pride in his personal appearance. He has nearly given up the habit of nail-biting, and has made a conscious effort to maintain greater cheerfulness. His schoolroom is kept somewhat cooler. Be-

TABLE 9.—ORIGINAL MEASUREMENTS AND GROWTH IN WEIGHT FOR EXPERIMENTAL AND CONTROL GROUPS

Original measurements and growth in weight	Boys		Girls	
	Experimental	Control	Experimental	Control
Number of children	132	107	141	95
Characteristics October, 1921				
Average height	55.2 in.	55.3 in.	55.2 in.	55.8 in
Below average weight	76%	76%	72%	75%
10% below average weight	25%	23%	31%	27%
Average relation to Wood Weight Norm	95.8%	96.0%	96.6%	97.1%
Average weight in pounds	73.5 (±0.7)	74.0 (±1.1)	73.8 (±0.8)	76.3 (±1.3)
Growth Data				
Average age	11.1 yr.	10.8 yr.	11.0 yr.	10.8 yr.
*Expected gain for 20 months on basis of age alone	12.7 lb.	12.4 lb.	16.3 lb.	16.1 lb.
Actual gain for 20 months	13.5 lb.	11.1 lb.	15.3 lb.	15.3 lb.
Actual gain for 20 months in terms of original weight	18.5%	15.0%	20.7%	20.0%
Underweight Children Only				
Number of children	100	81	102	72
*Expected gain for 20 months on basis of age alone	12.9 lb.	12.3 lb.	16.6 lb.	16.0 lb.
Actual gain	13.2 lb.	11.1 lb.	14.9 lb.	14.2 lb.
Actual gain in terms of original weight	18.6%	15.7%	21.2%	19.9%

*Based upon Baldwin Averages.

tween October and a year from the next June, "A" gained 13.5 pounds and "B" gained 11.1 pounds.

The statistical error involved because of the limited size of the two populations is indicated by the probable error of the mean which is 0.7 pounds for "A" and 1.1 pounds for "B". The slight differences in size and ancestry seem to favor "B" as indicating that he is, if anything, of a larger rather than a smaller stock than "A."

Relation to Normal—Studies of the relationship to normal weight (Wood Tables) show that 77 of the 273 children whose growth record we are able to carry over a two-year period were more than 10 percent underweight at the beginning of the experiment in October, 1921. At the end of one year 18 of these children or one in four had come out of the underweight group. Meanwhile four other children slipped back into it. Data for all children were not available the next year.

Averages show that all groups of children were from one to two percent lower in their percentage of normal weight in June than in October. The data show that the underweight children in the experimental group are consistently nearer normal during the second year, showing an improvement from two tenths to one and one-tenth percent.

The "percentage of normal" figure is inexact even when used upon the same group of children for corresponding dates in succeeding years and its fluctuation is not a good measure when used to compare the growth progress of *different groups* of underweight children at *different seasons*. The standing of a school population differs in different seasons and there is need for the development of a standard practice for computing the number of underweight children at a definite time of year (perhaps April 1-15) if it is desired to compare one city with another.

Summary—To date it may be said that our studies have yielded the following results:

1. Given a fair but experimental and critical trial without any initial investment of funds from outside sources, health education has commended itself to the school authorities, teachers and parents as a sound procedure, and is being adopted as a part of general school procedure.
2. Malden has served as a laboratory in which health education methods might be tested and taught from which useful methods have been adopted in other communities. In this laboratory enough people have already been trained as specialists in health education so that 100,000 children are now receiving health training under their leadership.
3. In the judgment of physicians and nurses, health education is a benefit to the medical and nursing work.
4. The program has resulted in an improvement of habits.
5. Health and growth records of individual children give strong evidence of health improvement through habit improvement.
6. Growth studies indicate that health education will assist in reducing the number of underweight children and in stimulating or accelerating the growth rate of children whose habits of living are poorer than nature intended them to be.
7. The desirability of further study is clearly demonstrated.

CHAPTER IX

LANGUAGE AND COMPOSITION

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Introduction

IN THE SHORT TIME at its disposal for the preparation of its report the Committee on Language and Composition has made no attempt to conduct a broad program of scientific research. The making of courses of study on such a basis in this field will require several years of scientific investigation. Certain phases of the field have already been attacked in this manner. They were presented in the *Third Yearbook* of the Department of Superintendence. Adequate information upon which to base a course of study in elementary language and composition is lacking. The committee has sought to make practical suggestions which superintendents can use in meeting the immediate problems of curriculum making. This report, therefore, attempts to present an outline of suggestive material which is based upon a combination of scientific research and opinions drawn from workers in the field. These opinions have come from direct teaching experience in the classroom. It is hoped that the material herein presented will be of assistance to superintendents in carrying on in this field, while scientific investigations more comprehensive than we have hitherto had in language and composition are being developed.

In presenting this report to the Department of Superintendence the committee wishes to make acknowledgment of its heavy indebtedness to the Denver elementary school English curriculum committee which worked under the direction of Dr. L. Thomas Hopkins, and to Dr. Ernest Horn who put at the committee's disposal the material on life situations and general outcomes which was worked out under his direction at the University Elementary School of the University of Iowa. This statement of ultimate outcomes and general situations in which language is used has been followed closely in this report. The material presented is suggestive for the first six grades of the elementary school.

The report is divided into these five sections:

I. Ultimate outcomes in language and composition
II. Outcomes by grades
III. General life situations in which language is used
IV. Some language situations likely to arise from content subjects and school activities
V. Illustrative lessons

Ultimate Outcomes in Language and Composition

Educators recognize the value of defining outcomes in terms of life needs. The ultimate outcomes of language study include the information and knowledge, habits and skills, attitudes and appreciations, belonging to the various life situations in which people use language. The problem of determining what the desirable outcomes of language should include, in the light of present-day educational principles, challenges the serious attention of educators. Extensive research is needed, first, to decide what outcomes are desirable, and second, to discover which outcomes belong to the elementary school, to the junior and senior high schools, and to the colleges and universities; and further to make a grade by grade scale of accomplishment if the facts disclosed by the investigations indicate the advisability of such a procedure.

The following statement of ultimate outcomes is modeled closely upon the unpublished course of study of the University Elementary School, State University of Iowa.

Some of these outcomes belong to both spoken and written English, others pertain to spoken language, while others are concerned only with written expression. The following statement of outcomes is arranged accordingly.

Outcomes Belonging to All Uses of Language and Composition[1]

The outcomes listed in the following pages are those that seem to be necessary to enable young people to meet successfully all those situations of life set forth in the introductory paragraph; that is, information and knowledge, habits and skills, attitudes and appreciations belonging to the various situations of life. This statement of meaning is assumed throughout the following pages dealing with outcomes although not repeated after its use here.

I. Choice of words

Employ meaningful adjectives and avoid overworked ones.
Use live verbs.
Distinguish in the use of words, avoid repeating needlessly.
Use synonyms.
Be discreet in using idiomatic expressions, avoiding slang and foreign phrases.
Improve the spoken vocabulary by using words gained through observation and experience, wide reading, conversations, and lectures.
Use words which others understand.[2]

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[1] Children in the elementary school should work toward these outcomes but should not be expected to attain complete mastery.

[2] The items listed are offered as significant examples under each head without making any attempt to include all the possible topics.

II. Correct usage of

A. *Verbs*

Use the form of verb that agrees with the subject in number; *he doesn't.*

Be consistent in the use of tense forms, and not confuse past and present tenses; *give, come.*

Use the past participle with an auxiliary and avoid the use of the past tense with an auxiliary; *has gone.*

Discriminate in the use of transitive and intransitive verbs; *sit* and *set, lie* and *lay.*

Make use of the proper auxiliaries; *will, shall, can, may.*

Use only approved contractions, avoiding such contractions as *ain't.*

B. *Pronouns*

Use the nominative form as the subject of the verb; *we girls went.*

Omit the pronoun if the noun is used; *John he.*

Employ the nominative form in compound subjects; *John and I were chosen.*

Use the nominative form after a copulative verb; *It is I.*

Use the objective form when the pronoun is the object of a verb or preposition; *Give it to Elsie and me.*

Employ the correct form of the pronoun after the comparative. *Tom is taller than I; Mr. Brown would rather give the ball to John than me.*

Use the objective form, *whom,* as the object of a verb or preposition; *The name of the little girl whom we saw is Nellie.*

Make the pronoun agree with the antecedent in number; *Each must do his own work.*

Place the pronoun in the first person after the pronoun in second or third person; *he* and *I,* rather than *I* and *he.*

C. *Modifiers*

Make the adjective agree in number with the noun; *this kind.*

Use correct adjective forms, avoiding the double comparative; *more kind* instead of *more kinder.*

Use an adverb instead of an adjective to modify a verb.

Make use of the correct adverbial form; and avoid double negatives.

Discriminate between the use of the demonstrative adjective and the personal pronoun; *those skates.*

III. Sentence and paragraph structure

Use complete sentences.
Speak in clear-cut sentences, avoiding statements that are short and choppy, or long and involved.
Begin sentences in various ways.
Arrange sentences in sequence.
Eliminate unnecessary statements.
Make an outline of the topics to be discussed and expand them into paragraphs.
State the main thought of the paragraph in the first sentence.

Additional Outcomes Belonging to Spoken English

I. The use of the voice

A. *The quality of tone*

Speak loud enough to be heard by the person farthest away.
Speak in a tone pleasant to hear and avoid pitching the voice too high or speaking in lifeless, nasal, raucous tones or in monotone.
Speak with a relaxed throat; good tone is produced by letting a column of air flow evenly over the vocal cords.
Breathe from the diaphragm and support the tone with the breath.
Use pause, accent, rhythm, inflection.
Make the meaning clear by emphasis.
Speak slowly enough to be understood, adapt the rate of speaking to the size and acoustics of the room.
Start with a low voice.

B. *Enunciation*

Sound beginning of words.
Sound endings distinctly—*d, t, p, b,* and avoid adding sounds; *idear.*
Articulate each syllable distinctly.
Avoid sliding vowels or consonants.
Separate words; *don't you,* instead of *dontcha.*

C. *Pronunciation*

Know where to place the accent in words; *mischievous, hospitable.*
Give proper sound of letters; *Asia, hosiery, Chimney.*
Avoid substitution of sounds; *rinse, can, get.*
Sound all consonants unless silent; *arctic, which.*

II. Conversation

A. *Ability to make the conversation interesting*

Converse about what has been read in different fields: history, literature, science; current fiction and poetry; literature of special interest; topics of the day.

Know magazines which deal with specific subjects in an interesting way, know where to get current books and poetry.

Know how to use good stories, anecdotes, and illustrations and how to use references and magazines which contain good stories and joke pages.

Relate travel experiences.

Report to friends any interesting observations or experience dealing with people, scientific facts, art, processes of construction, games, sports, fairs, a circus, plays, exhibits.

Quote the sayings of interesting characters, descriptions of people and places, incidents and passages from history or literature.

Retell interesting portions of lectures and conversations.

Know how to raise certain questions with friends; know something of their interests and guide the conversation accordingly; secure the participation of strangers by an attitude of friendliness and by introducing topics about which they may wish to talk.

B. *Observance of common courtesies*

Make requests in a polite manner.

Observe the courtesies due those who entertain one as a guest.

Express gratitude for favors graciously.

Observe the courtesies due a host and hostess.

Be careful not *to listen* in on conversations not meant for him.

Respect the confidence of others and not repeat personal or business affairs.

Know the proper form of introduction to fit the occasion and know topics of interest to suggest following the introduction.

Observe the common courtesies with regard to appropriate times and places to converse and not talk during lectures, musical performances, formal services, such as church, weddings, initiations, or when speaking would annoy others, as in the schoolroom or sick room.

Choose appropriate places for extended conversations and limit conversations on the street or in front of doors; also, avoid speaking of personal or family affairs in public places.

Know what topics are appropriate to introduce during special kinds of calls; such as, calls of condolence or congratulation.

Observe the proper etiquette at the table by choosing only pleasant topics for conversation and by not commenting unfavorably of the food.

Choose topics at social gatherings upon which the group, as a whole, is open-minded and avoid personal topics, discussion of family or business affairs, and gossip.

C. *Ability to speak over the telephone*

Keep the lips about one inch from the mouthpiece and speak slowly, clearly, and directly into the telephone.

Listen carefully while the operator repeats the number and say "right" if she repeats it correctly, "no" if she repeats it incorrectly.

Answer telephone calls promptly and pleasantly.

Announce the number when answering a residence telephone.

Give the name of the company and the department in answering a business telephone.

Concentrate on telephoning.

Be considerate in the use of telephone and avoid meal times, extremely late or early hours, or heavy business hours; also avoid using other people's phones often or for too long a time, or at times inconvenient for them.

Keep telephone conversations brief.

Be discreet and not gossip or hold intimate conversations over the telephone or private, business, or social conversations in public places.

III. Meetings

A. *Ability to speak as a member of a social group as in the classroom*

Present a pleasing appearance by being neatly dressed and well-groomed and by keeping one's self in a good physical condition.

Be enthusiastic, showing a real interest in the subject discussed.

Be a good listener and not habitually make a speaker repeat his remarks. Ask intelligent, sympathetic questions; and do not appear bored or apathetic or whisper in the presence of others.

Speak quietly and naturally and not be unduly demonstrative or speak in a blustering or stilted manner.

Allow others to complete their remarks and not interrupt a speaker unless that which he has to say is important or is a message which cannot wait.

Express likes and dislikes with moderation and not let the face show displeasure at another's conversation.

Suggest topics that he can follow up, avoiding unpleasant ones and needless repetition.

Keep to the point under discussion and be an intelligent participant in the group.

Be generous and avoid complaining or talking about one's self all the time; also speak well of one's friends and of one's enemies say nothing.

Be natural and not assume a dialect or accent or the mannerisms of others.

Cultivate a composed manner by keeping the hands still and avoid such habits as fingering a string of beads, buttoning or unbuttoning a coat.

Stand or sit properly and avoid a slouching position or getting too close to a listener.

Conduct the meeting with due consideration for all those present, if presiding.

Know how to introduce a speaker.

Allow others a share in the discussion and do not monopolize it. Show courtesy to anyone entering the group late by inviting him or her to enter the discussion.

Be thoughtful of those engaged in the discussion by not being personal and being careful not to make remarks that would hurt the feelings of others; also by avoiding making criticisms of the type of business in which a listener is engaged, by addressing others in peremptory or rude tones, or by reproving in the presence of others.

Give all members of the group reasonable opportunity for expressing their opinions.

Observe the proper etiquette when beginning to speak at the same time as another. One of the speakers should say, "I beg your pardon," and wait until the other person has finished; adult before child, older before younger, lady before gentleman, superior before inferior.

Express feelings with reasonable force, avoiding useless argument and with due consideration for those who differ.

Make contradictions in a courteous manner; avoiding insinuating that the person contradicted has deliberately misrepresented facts.

Address questions of general interest to some member of the group who is qualified to speak on the subject.

Know how to change the topic under discussion by realizing the value of comparison as a means of changing the topic by suggesting through tactful hints the postponement of the subject, by turning the whole situation into a joke, or by conceding the argument.

B. *Ability to speak before an audience*

Address the chairman and the audience.
Assume a natural position and stand erect and squarely on both feet.
Look at the audience and speak directly to them.
Include the whole audience and not one part of it.
Conclude gracefully, usually with a slight bow.
Walk on and off the stage in a straight line without conspicuous self-consciousness, avoiding unnecessary appearance of haste.
Take account of all the details of the situation, such as size and acoustics of the room, size of the audience, purpose of the gathering.
Be adaptable to the dramatic demands of the situation, anticipating and watching for the response of the audience.
Be sympathetic with the viewpoint of the audience.
Exercise good judgment as to what to say, when to say it, and when to quit and not infringe on the time or good nature of the audience, nor upon the time of other speakers.
Be sincere, speak simply and with zest.
Be modest but not apologetic.

C. *Ability to participate in a conference*

Allow the person arranging the conference to introduce and close the subject of conversation.
Adhere to the topic introduced by the person calling the conference.
Show consideration in the amount of time used.
Know the appropriate time to make an appointment.
Sense the time to quit, when the point has been pushed.

IV. Practical discussions

Practical discussions include messages and announcements, explanations and directions, reports, and speeches.
Narrow the subject for discussion to a topic that can be dealt with in the given time, choosing the phase of the subject and the facts that are best calculated to interest the audience.

Arrange material in a clear, orderly, interesting form, avoiding useless sentences, especially at the beginning and end. Be absolutely sure of the facts.

Use direct quotations in anecdotes, not using dialect unless proficient.

Give credit for quotations.

Include all the necessary facts when giving an announcement or message, an explanation or direction.

Illustrate the meaning by the use of charts, drawings, pictures, or posters.

Know how to prepare a speech to be made upon assuming the duties of an office or upon retiring from office.

V. Anecdotes and stories

Know how to outline a story so as to be familiar with events in logical order and develop the story effectively.

Feel the story and make it personal.

Familiarize himself with the story as a whole.

Keep the literary style of the author by memorizing the exact phraseology of the conversation as given in familiar version, but not memorizing the story word for word; when reproducing a story omit all unnecessary details.

Tell the events so that the interest will be sustained till the end.

Know how to culminate the story by having a well-defined end; in short stories and anecdotes let the last sentence contain the surprise.

Tell the main thought in the first sentence; it should arouse interest or curiosity.

Keep the same point of view throughout.

Know how to tell the story so that the action moves rapidly and clearly.

Eliminate secondary characters, descriptions, and events when making a long story short.

Elaborate incidents by using the imagination when amplifying a story.

Additional Outcomes Belonging to Written English

I. Form of paper

Leave margin at the left.

Write on one side of the paper only in all work which is to be used as a final copy to be handed in or preserved.

Leave a space of at least one inch at the top of a beginning sheet.

Write on all except the last line of a ruled sheet, and on an unruled sheet, leave at least a half inch at the bottom of the page.

Secure emphasis through the context and do not underline words.
Use abbreviations only in cases sanctioned by custom.
Spell correctly.
Write legibly.
Use good pens, ink, and paper.
Indent all paragraphs.
If a number is used, the number should also be indented.
Keep a margin without drawing a line.
Write to the end of each line except at the end of a paragraph or in outline form, and do not crowd the writing at the end of the line.

II. Capitals and marks of punctuation

A. *Capitals*

Begin sentences with capitals.
Write the word *I* with a capital.
Write the days of weeks, holidays, months, and initials with capitals.
Begin all names of people and places with a capital.
Begin every line of poetry with a capital letter.
Capitalize the first word in title of stories.
Capitalize abbreviations of proper nouns and titles.

B. *Marks of punctuation:* Period, question mark, comma, colon, semicolon, exclamation point, hyphen, and apostrophe.

III. Letters

A. *Business letters*

State the business of the letter clearly.
State the purpose of the letter in the first sentence.
Discriminate in choice of words, and avoid colloquialisms and contractions.
Maintain a courteous tone throughout the letter.
Express oneself naturally; the letter should be an expression of personality.
Be as brief as possible.
Use an appropriate form of address.
Use the correct form of heading.
Use an appropriate formal close.
Sign the name in full and do not omit date.[1] (If a woman, put Miss or Mrs. in parentheses before the name.)
Appreciate good quality of stationery.

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[1] This applies to all written communications.

Know the approved size for business purposes.
Address the envelope properly.
Use the proper title and initials of the person to whom the letter is sent.
Observe the form suggested in this course of study.

B. *Social letters*

Tell items of interest to the receiver.
Write in a conversational, chatty tone, and use colloquialisms and contractions if suitable.
Express himself naturally; the letter should express one's individuality.
Use an appropriate informal salutation.
Use an appropriate close.
Address the envelope properly.
Place the return address in the upper left-hand corner of the envelope.
Appreciate good stationery of a size generally approved.

C. *Informal notes*

State the subject clearly.
Develop the subject of the note logically, but briefly.
Write a note in keeping with the purpose; if an invitation, be cordial; condolence, sympathetic; regrets, sincere; acceptance, pleasure in anticipation; excuse, apologetic. The note is an expression of one's personality.

Include all necessary details as time and place, in invitations and replies; reason for absence in excuses.

D. *Formal notes*

Write notes in the third person.
Send formal invitations on dignified occasions; such as church weddings, parties, formal dinners, and follow the best prevailing style in selecting stationery engraving.
Know when and how to reply to various kinds of formal invitations.

IV. Notices

Express the facts clearly.
Include all necessary information.
Arrange graphically and artistically.
Use vivid meaningful words which excite curiosity or interest.
Know that if illustrations are used, the relation between words and pictures should be evident.

V. Reports

Know the form in which special types of reports are submitted.
Make the report as brief as possible.
Make statements accurately.
Avoid expressing personal opinions in committee reports.

VI. Note taking

Select the essential points.
Arrange in logical order.
Be brief by omitting unimportant words.
Adopt a scheme of abbreviating common words.

VII. Filling in forms

Read the directions with comprehension.
Follow the directions exactly.
Write legibly.
Spell correctly.

VIII. Making a bibliography

Make notation of author, title, publisher, date, paging.
Include the name of the magazine, the date, month, and year of publication, paging, when referring to magazines.
Write the last name of the author first.
Arrange in alphabetical order by authors' last names.
List books first and then magazine articles.
Use the card catalogue.
Use magazine indexes.
Observe library practice in writing titles.
Make annotations, if desirable.

IX. Creative writing

Choose ideas about which you feel deeply.
Be original.
Do not echo the ideas and sentiments of others nor use hackneyed poetic expressions.
Make a vivid picture.
Paint the picture with words.

Outcomes by Grades

GRADE ONE

Outcomes to Be Attained by the End of Grade One:

A. In all use of English the child should:
   1. Have knowledge of correct usage through the language of the teacher.
   2. Have had conscious practice in: (a) Using words gained through observation and experience; reading and conversation; and avoiding slang and foreign phrases; and (b) using correct forms of:

      Verbs: *See, do, eat, bring, is, come, go, run, sit, give, write, lie, begin, ring, take, sing, break, can,* and *may.*

      Agreement with subject—*Don't* and *doesn't, was* and *were.*

      Pronouns: attribute complement—*It is I;* used as a compound subject.

      Modifiers: *Am not* instead of *ain't; haven't any* instead of *no.*
   3. Speak in complete sentences when the purpose is to provide drill in sentence making, avoiding excessive use of *and, but* and *well.* This does not refer to conversation in which *yes* or *no* or a phrase is a satisfactory answer.

B. In spoken English the child should have had conscious practice in:
   1. Speaking loud enough to be heard by the person farthest away.
   2. Speaking slowly enough to be understood.
   3. Speaking with a relaxed throat (do not center the child's mind on the vocal cords, but on the diaphragm).
   4. Sounding beginnings and endings of words distinctly.
   5. Articulating each syllable distinctly.
   6. Allowing others to complete their remarks without interruption.
   7. Being silent and attentive while others are talking.
   8. Facing the listeners and including the whole group when addressing them.
   9. Observing the proper etiquette when beginning to speak at the same time as another.
   10. Waiting until an adult has completed his remarks.
   11. Making reports consisting of three or four sentences about interesting observations or experiences such as games, a circus, processes of construction.
   12. Expressing gratitude for favors graciously and sincerely.

C. In written English the child should have information with regard to the following use of capitals:
   1. His name begins with capitals.
   2. Sentences begin with capitals.
   3. The word *I* is written with a capital.

GRADE TWO

Additional Outcomes to Be Attained by the End of Grade Two:

A. In all use of English:

- 1. The child should have had practice in:
    - a. Discriminating in the use of words by avoiding needless repetition.
    - b. Using meaningful adjectives and avoiding overworked ones; *nice, fine.*
    - c. Speaking in clear-cut sentences.
    - d. Arranging sentences in sequence.
- 2. He should have established the habit of using the following forms correctly: (a) Verbs—*see, do, eat, bring;* (b) Attribute complement—*It is I.*

B. In spoken English:

The child should have had conscious practice in:

1. Speaking quietly and forcefully.
2. Speaking in a tone pleasant to hear, avoiding pitching the voice too high, and speaking in lifeless, nasal, raucous tones or in a monotone.
3. Conversing about what has been read.
4. Retelling interesting portions of conversations or lectures.
5. Making requests in a polite manner.
6. Observing the courtesies due a host when being entertained as as a guest.
7. Using judgment concerning when to speak; refraining from conversation when it will annoy others, as in the schoolroom, auditorium, or sick room.
8. Showing courtesy to anyone entering the group late by inviting him to join the conversation.
9. Telling a short story interestingly.
10. Sounding endings of words distinctly—d, t, p, b, g.
11. Cultivating a composed manner by keeping the hands still, and avoid such habits as fingering a string of beads, buttoning or unbuttoning a coat.
12. Sitting properly, avoiding a slouching position.
13. Looking at the group and speaking directly to them.
14. Allowing others a share in the discussion.
15. Being thoughtful of the feelings of others.
16. Making contradictions in a courteous manner.
17. Assuming a natural position, standing erect and squarely on both feet when addressing a group.
18. Concluding a speech gracefully.
19. Walking on and off the stage in a straight line without an appearance of haste.

C. In written English:
  1. The child should have had conscious practice in:
    a. Using the approved form of the paper in all written work to be handed in.
    b. Indenting paragraphs.
    c. Using capitals:
      1. Beginning the days of the week, holidays, months.
      2. Writing initials.
      3. Beginning all proper names.
    d. Writing notices, making sure to include all necessary information.
    e. Writing informal notes being careful to state the purpose of the note clearly and courteously.
  2. He should have established the following habits:
    a. Writing his full name with proper use of capitals.
    b. Beginning sentences with capitals.
    c. Writing the word *I* with a capital.
    d. Placing a period at the end of a sentence.
    e. Placing a question mark after a question.

GRADE THREE

Additional Outcomes to Be Attained by the End of Grade Three:

A. In all use of English:
  1. The child should have had conscious practice in:
    a. Improving the spoken vocabulary by using words gained through observation and experience, wide reading, conversations, and lectures.
  2. He should have established the habit of using the following forms correctly:
    is, come, go, run, am not instead of *ain't.*
  3. He should have a knowledge of correct usage through the language of teachers, visitors, and books.

B. In all spoken English:
  The child should have had conscious practice in:
  1. Breathing from the diaphragm and supporting the tone with the breath.
  2. Enunciating words avoiding sliding vowels or consonants.
  3. Pronouncing words avoiding substitution of sounds; *rinse, can, get.*
  4. Showing a real interest in the subject discussed.
  5. Standing or sitting properly and avoiding getting too close to a listener.
  6. Addressing others in a polite tone and avoiding peremptory or rude tones.
  7. Giving all members of the group reasonable opportunity for expressing their opinions.

8. Suggesting topics that he can follow up, avoiding unpleasant ones and needless repetition.
9. Keeping to the point under discussion in discussion groups.
10. Being generous and avoiding complaining or talking about himself all the time.
11. Telling good stories, anecdotes, and illustrations in conversation and using references and magazines which contain good stories and joke pages.
12. Guiding conversation according to his friend's interest.
13. Introducing his parents to the teacher or a new pupil to the class.
14. Preparing and presenting discussions making sure the statements are correct, avoiding useless sentences at the beginning and ending.
15. Illustrating the discussion by means of charts, drawings, pictures, or posters if such devices clarify the meaning.
16. Preparing and telling stories, familiarizing himself with story as a whole, endeavoring to feel the story and make it personal, putting his whole mind on the story and listeners, omitting all unnecessary details and keeping the same point of view throughout.

C. In written English:
   1. The child should have had conscious practice in:
      a. Using one side of the paper only in all work which is to be used as a final copy to be handed in or preserved.
      b. Writing on all except the last line of a ruled sheet, and on an unruled sheet leaving at least a half inch at the bottom of the page.
      c. Spelling words for this and previous grades correctly.
      d. Having good pen and ink at hand always.
      e. Indenting paragraphs.
      f. Writing to the end of each line except at the end of a paragraph or in outline form and not crowding the writing at the end of the line.
      g. Writing social letters telling items of interest to the receiver, and expressing himself naturally.
      h. Using an appropriate informal salutation.
      i. Using an appropriate complimentary close.
   2. He should have become more skilful in the use of capitals and punctuation marks.
   3. He should have established the following habits:
      a. Placing a period at the end of a sentence.
      b. Placing a question mark after a question.
      c. Writing the days of the week, holidays, months, proper names, and initials with capital letters.
      d. Using approved form of paper.

4. He should have information concerning the following uses of capitals:
    - a. Abbreviations of titles and proper nouns.
    - b. The first word of every line of poetry.

GRADE FOUR

Additional Outcomes to Be Attained by the End of Grade Four:

A. In all use of English:
1. The child should have had conscious practice in distinguishing in the use of verbs by choosing live verbs which express his meaning definitely.
2. He should have established the habit of the correct use of:
    - a. The verbs—*sit, give, write.*
    - b. The use of the negative.
    - c. Pronouns used as a compound subject.

B. In spoken English:

The child should have had conscious practice in:
1. Beginning sentences in various ways.
2. Stating the main thought of the paragraph in the first sentence.
3. Pronouncing words separately; *don't you* instead of *dontcha.*
4. Sounding consonants unless silent; *arctic, which.*
5. Speaking naturally and not being unduly demonstrative, avoiding speaking in a blustering or stilted manner.
6. Expressing likes and dislikes with moderation and avoiding showing displeasure at another's conversation.
7. Making speeches, addressing the chairman and the audience, including the whole group, and speaking simply, sincerely, and earnestly.
8. Making conversation interesting by quoting the sayings of interesting characters and incidents or by giving descriptions of people and places.
9. Introducing topics about which new pupils may wish to talk, thereby showing an attitude of friendliness.
10. Narrowing the subject for a practical discussion to a topic that can be dealt with in the given time choosing the phase of the subject and the facts that are best adapted to interest the audience.
11. Endeavoring to make an effective ending.
12. Preparing and presenting stories endeavoring to arouse interest and curiosity by the statement of the first sentence, to disclose events rapidly and clearly, and to make an effective ending.

C. In written English:
1. The child should have had conscious practice in:
    - a. Writing legibly.
    - b. Writing social letters observing all the outcomes listed under social letters.

    - c. Writing business letters observing all the outcomes listed under business letters.
    - d. Writing informal notes observing the outcomes necessary to meet their particular needs.
    - e. Writing notices consciously striving to attain all the desirable outcomes.
    - f. Writing reports on such topics as health and thrift, endeavoring to make the report brief, concise, and accurate.
    - g. Note-taking, striving for the desired outcomes.
  - 2. He should have knowledge concerning the use of:
    - a. Apostrophe in contractions.
    - b. Apostrophe to show possession.
    - c. Capitals in the first and important words of titles.
    - d. Comma in a series.
    - e. All punctuation in the heading and close of social and business letters.
  - 3. He should have established the following habits in regard to capitalization:
    - a. Abbreviations of titles and proper nouns.
    - b. The first word of every line of poetry.
  - 4. He should have attained skill in the use of all items in previous grades listed under systematic procedure and capitalization and and punctuation.

GRADE FIVE

Additional Outcomes to Be Attained by the End of Grade Five:

- A. In all use of English:
  - 1. The child should have had conscious practice in discriminating in the choice of words by using synonyms.
  - 2. He should have established the habit of the correct use of the following forms:
    - a. Verbs—*lie, begin, ring, can, may.*
    - b. Pronouns—proper form after comparative.
    - c. Speaking in clear-cut sentences avoiding statements that are short and choppy or long and involved; also run on sentences connected by *and, but,* or *well.*
    - d. Making an outline of the topics to be discussed and expanding it into paragraphs.
    - e. Adapting the rate to the size and acoustics of the room.
- B. In all spoken English:
  - 1. The child should have had conscious practice in:
    - a. Giving the proper sound of letters; *Asia, hosiery.*
    - b. Introducing new pupils to the group and following the introduction with suitable topics for conversation.

- c. Choosing appropriate places for extended conversation; limiting conversation on the street, in front of doors, in narrow halls, and in other public places.
- d. Expressing his feelings, endeavoring to do so with reasonable force, avoiding useless argument, and showing due consideration for those who differ.
- e. Addressing questions of general interest to some member of the group who is qualified to speak on the subject.
- f. Speaking before an audience, recognizing the value of being sympathetic with their point of view by a modest sincere presentation and by exercising good judgment as to what to say, when to say it, and when to quit.
- g. Telling stories, visualizing every scene, and reporting events so that the interest will be sustained until the end.

2. He should have knowledge of magazines which deal with specific subjects in an interesting way.

C. In written English:

1. The child should have maintained skill in the use of all outcomes listed in previous grades under systematic procedure, capitalization and punctuation.
2. He should have attained skill in regard to capitalization of:
    - a. Abbreviations of titles and proper nouns.
    - b. The first word of every line of poetry.
3. He should have established the correct habits concerning the uses of:
    - a. Apostrophe in contractions.
    - b. Apostrophe to show possession.
    - c. Capitals in the first words of titles.
    - d. All punctuation in heading and close of social and business letters.
4. He should have knowledge concerning the use of:
    - a. Hyphen at the end of the line to divide syllables.
    - b. Exclamation mark.
    - c. Comma to separate *yes* and *no*.
5. He should have established the habit of writing:
    - a. Social letters observing all the desirable outcomes.
    - b. Informal notes observing all desirable outcomes necessary to meet their particular needs.
6. He should have practice in writing:
    - a. Notices observing all the desirable outcomes.
    - b. Reports on such topics as health and thrift, endeavoring to make the report brief, concise, and accurate.
    - c. Notes striving for the desired outcomes.
    - d. A bibliography, learning to write the last name of the author first, arranging in alphabetical order by author's last name, listing books first and then magazine articles, observing library practice in writing titles.

GRADE SIX

Additional Outcomes to Be Attained by the End of Grade Six:

A. In all uses of English:
  1. The child should strive to attain skill in all of the outcomes relating to choice of words.
  2. He should have established the habit of the correct use of:
    a. Verbs—agreement with subject—*he doesn't, shall* and *will.*
    b. Conjunctions and modifiers—*like, as, as if, surely, nice, very, between, better, couldn't* (*couldn't hardly*), *many* (*lot*).
  3. He should have established the habit of observing the outcomes relating to sentence and paragraph structures when speaking.

B. In spoken English:
  1. The child should have had practice in:
    a. Speaking, endeavoring to make the meaning clear by emphasis.
    b. Accenting difficult words correctly—*mischievous, hospitable.*
    c. Conversing about people, scientific facts, art, processes of construction, games, sports, fairs, a circus, plays, exhibits.
    d. Speaking naturally, recognizing the absurdity of assuming a dialect or accent, or the mannerisms of others.
    e. Conducting informal meetings showing due consideration for all those present.
    f. Speaking before an audience endeavoring to be adaptable to the dramatic demands of the situation, anticipating and watching for their response.
    g. Preparing a story by outlining the events in logical order so that he will be familiar with the story and develop it effectively.
  2. He should have established correct habits listed in previous grades in regard to the use of the voice.

C. In written English:
  1. The child should have maintained skill in the use of all outcomes listed in previous grades under systematic procedure, capitalization and punctuation.
  2. He should have attained skill in regard to the correct use of:
    a. Hyphen at the end of the line to divide syllables.
    b. Exclamation mark.
    c. Comma to separate *yes* and *no.*
  3. He should have established the habit of using the colon before an itemized list.
  4. He should have attained skill in writing:
    a. Social letters observing all desirable outcomes.

- b. Business letters observing all the desirable outcomes.
- c. Informal notes observing all desirable outcomes necessary to meet their particular needs.

5. He should have practice in writing:
   - a. Notices observing all desirable outcomes.
   - b. Reports on such topics as health and thrift, endeavoring to make the report brief, concise, and accurate.
6. He should have established the habit of:
   - a. Observing the desirable outcomes when taking notes.
   - b. Making a bibliography observing the outcomes listed in previous grades.

General Life Situations in Which Language is Used

A careful analysis of the situation in which children use language shows that the needs of children are similar to those of adults. Most types of situations arise in the classroom, auditorium, on the playground, or at home. The progressive school recognizes the opportunities which these situations offer for purposeful language work. Not all these language situations are likely to arise in a given semester, nor will the needs of all children in a given class be the same. It is not possible to utilize all of the situations which exist at any one time. Therefore the introduction of artificial situations is unnecessary.

The following analysis of life situations is modeled closely upon the unpublished course of study of the University Elementary School, State University of Iowa.

I. Life situations in which spoken English is used

A. Conversations

At the table, at social gatherings, in discussion groups, at public gatherings, in public places, during introductions, during calls, at interviews, in greetings and partings, in asking directions, in telephoning.

B. Meetings

1. Informal proceedings such as classes, auditorium exercises.
2. Formal proceedings of organizations, clubs, committees.

C. Practical discussions

1. Speeches of felicitation, dedication, presentation of gifts, acceptance of gifts, introduction of speakers, inauguration speeches, speeches upon retiring from service, substitute or impromptu speeches.
2. Reports of meetings, conferences, visits, illustrated lectures, demonstration talks.
3. Persuasive talks as in membership drives, political campaigns, school campaigns for thrift, health, cleanliness; as in apply-

ing for the position of office boy or paper carrier; as in selling tickets to school entertainments.

4. Messages and announcements of games, lectures, exhibits, entertainment, meetings.
5. Explanations and directions as to how to make a radio, a cake, or a flower box; how to go to a park or a railway station; how to iron a dress or care for the children.

D. Anecdotes and stories

1. Telling anecdotes and stories to children in the home, school, or social group.
2. Telling anecdotes and stories to adults at social functions, on the train, at the dinner table, at informal gatherings of friends, to people who are sick or in trouble, at public meetings.

II. Life situations in which written English is used

A. Letters

1. Business letters to firms for information, for supplies.
2. Social letters to school friends, to parents, to children in other communities.
3. Informal notes: excuses, invitations.
4. Formal notes.

B. Notices of games, lectures, exhibits, entertainments, meetings.

C. Reports of committee to school or class; of delegate to class or school council; official, president of school council; financial, money saved by class each week; minutes of council or club; reviews, books, articles, speeches, plays; of observations or experiments.

D. Note taking for preparation of papers, stories, discussion, and reports.

E. Filling out forms, mail order blanks, application for money orders, checks, deposit slips, test forms, telegrams or cablegrams; information blanks or questionnaires, budgets.

F. Making a bibliography.

G. Creative writing for papers, clubs, class, newspaper or magazine articles in school or local paper, diaries, imaginative writing, such as stories, poems, plays.

The committee has not attempted to carry the above analysis of life situations far enough to make a statement by grades. However, the following section presents a statement by grades from another point of view. Obviously it brings in much that is to be derived from the above statement of life situations.

Some Language Situations Likely to Arise from Content Subjects and School Activities

GRADE ONE

A. Elementary Science

1. Guessing games and riddles involving description of flowers and trees.
2. How shall we arrange these flowers to look attractive? (conversation).
3. How can we protect our mountain flowers?
4. How should you get the soil ready for your garden?
5. How do you keep your pet clean?
6. A set of rules on the treatment of pets.
7. A chart of the birds observed during the spring (pictures, names, descriptive words).
8. What is the best way to treat a mosquito bite?
9. How do birds help to take care of your garden?

B. Social science and practical arts

1. How I made cookies.
2. Why should children drink milk and cocoa?
3. What is the best way to wash dishes?
4. What does the milkman do for us?
5. Chart of various materials used in building houses—names, description.
6. How I help mother set the table.
7. What is the best way to dust a chair?
8. How do clean hands help keep our house clean?
9. Why should one sleep with the windows open?
10. How can we make our reading table attractive?
11. Why should I change my clothes after school?
12. What is the best kind of clothing to wear while playing?
13. How can I make mother's work easier by caring for my clothes?
14. How I made my doll's dress, hat, cloak, cape, bonnet.
15. What is the best way to wash a silk tie or ribbon, a cotton dress?
16. Why is silk not the best kind of material for a school dress?
17. Letter (dictated by class) to borrow silk exhibit from store.
18. Why I chose to make my doll's coat of brown material.
19. Cloth chart—words descriptive of materials.
20. Games involving description of materials.
21. What kind of soil we choose in which to plant our cotton seed.
22. How our cotton plant grew.
23. Set of rules for handling dishes carefully.
24. What is the best way to wash knives and forks? glasses?
25. How we made our Easter baskets (tell to another room).

26. Summary of qualities of paper boxes, baskets, and dishes.
27. Why does father read the newspaper? magazines? books? (conversation).
28. Letter arranging visit to printing office dictated by children.
29. Set of directions for using books (used later for reading lesson).
30. How we made our reading lesson (explanation given in auditorium).
31. Plans for making booklets (conversation).
32. How does the hornet make paper?
33. Chart of cutting tools—names and uses.
34. Directions for using and caring for cutting tools (dictated by class, later used for reading).
35. List of tools needed in sewing; in making chair.
36. How should knife, fork, and spoon be used? (conversation).
37. Booklet of tools used in garden—names and uses.
38. How can I make mother's birthday happy?
39. What can I do to make the evenings pleasant?
40. How can you show appreciation for the work of the janitor? postman?
41. List of various people that protect our health.
42. How does the dentist help protect our health? doctor? nurse?
43. How does the fireman know when there is a fire?
44. Why should you say good morning to the people in your home? school?
45. A list of courtesy rules to be observed by our class.
46. A list of the occasions in which it would be excusable to interrupt.
47. Game: A lady comes to see you (courtesy, how to receive mother's callers).
48. Play going to the store for mother.
49. Play going to town on the street car.
50. Why should one play in the open air every day?
51. Monthly chart showing the number of hours slept each night.
52. What is the proper way to cross the street?
53. Why shouldn't children throw pebbles or rocks on the school grounds?
54. A list of safety rules dictated by the children.
55. Directions for going to your home.
56. Why should you be careful of your neighbor's lawn?
57. How do you take care of your lawn?
58. Plans for arranging a flower show (conversation).
59. How do the people in the school work together so that all may be happier?
60. A list of school regulations which make the school work easier.
61. How can we make a new pupil feel at home?

C. Social situations

1. What should one talk about at the table? (conversation).
2. Why should one learn to eat all kinds of food? (conversation).
3. How will you introduce your mother when she comes this afternoon? (conversation, dramatize introduction).
4. What will we say to the second grade after the party? (conversation).
5. Dramatize correct manner of asking and giving directions and locations in the neighborhood.
6. Why do people like to live in a neighborhood where the houses are well-kept?
7. Report in auditorium of amount of money saved in a week.
8. Letter of thanks to Congress of Parents and Teachers for picture given to room.
9. Letters to ill children.
10. Why should one child not talk all the time during a conversation?
11. Letter of acceptance to second grade's invitation to a party.
12. Letter to Santa Claus.

D. Leisure activities

1. Telling story of Cinderella, Little Red Riding Hood (different children tell different parts from outline on board).
2. Dramatizing the Three Bears, Billy Goat Gruff.
3. Telling the story of Robin's Christmas Song (other stories read in supplementary readers).
4. Reciting Mother Goose Rhymes.
5. Original rhymes about Halloween, birthdays.
6. Reproduction of fables.
7. Original rhymes to sing for marching.
8. Message to music teacher for victrola records.
9. Letter of thanks dictated by children.
10. What story does this picture tell you? (magazine pictures).
11. What is this picture about? (conversation about picture in reader).
12. What do you think is a good title for this picture?
13. List of games liked best, guessing, running, singing.
14. Riddles about toys—(based on exhibit of toys received for Christmas).
15. How to play "Pussy wants a corner" (tell to children who were absent when game was learned).

GRADE TWO

A. Elementary science

1. Why do dandelions spread so rapidly?
2. How can I rid my lawn of dandelions?
3. How should one pick flowers?
4. A chart showing where different birds build their nests (names of birds, places, descriptive words).
5. A list of flowers that grow from bulbs.
6. A chart showing the friends and enemies of the garden.
7. A summary on the care of tulips.
8. How can we tell which way the wind is blowing?
9. What kind of soil is best for the garden? (Summary from experiments with soils.)
10. How does the forester decide which trees to cut for Christmas?
11. Why shouldn't the blossoms be picked from the fruit trees?
12. A list of actions that the bear does instinctively.
13. Why do farmers destroy prairie dogs?
14. Why can birds fly?
15. How can one rid his garden of ants?
16. What lesson can one learn from ants? bees?

B. Social science and practical arts

1. What constitutes a good picnic lunch?
2. How did the Indians provide meat?
3. How do we provide ourselves with meats?
4. Why should all fruits and vegetables which are eaten raw be washed?
5. Why is the kind of food we eat so important?
6. What is the best way to cook spinach?
7. How I made my chair—table.
8. What is the best way to clean a rug?
9. Letter arranging for a visit to a lumber yard.
10. Where does the lumber man get his lumber?
11. Invitation to another room to come to see lumber exhibit.
12. How did the cave man use fire?
13. What did the cave man have to think about in choosing a place for his home?
14. What must one consider in choosing a place to camp?
15. How is pure water provided for us?
16. How do we plan with our neighbors so as to have more conveniences?
17. How did the cave man light his home?
18. How did the cave boy and girl learn to make their living?
19. Letter arranging visit to a dry goods store.

20. Where does the merchant get the thread, caps, suits, dresses, shoes, stockings, cloth, he sells to us?
21. Letter of thanks to merchant after visit to store.
22. Summary of what was learned at dry goods store.
23. Chart showing garments, materials, prices, labels, tags, advertisements.
24. Letters to children in cotton section asking for exchange of illustrative material.
25. How is the cotton gin an improvement over the hand-picking of cotton?
26. How we washed the wool.
27. Retelling stories of shepherd's care of sheep (David).
28. Formulate set of directions for dyeing wool.
29. How I wove a mat for my doll house.
30. How we cared for our flax plant.
31. Why does linen wear longer than wool, silk, or cotton?
32. Why should I wash my stockings every day?
33. How can fruit stains be removed from table linen?
34. Why should one sew the buttons on his clothes at once?
35. How did the cave dwellers sew their clothing?
36. Why should the dishes be arranged in an orderly way in the cupboard?
37. Why should you keep your desk orderly?
38. How should the knife, fork and spoon be placed upon the table?
39. List of all things in the home made of clay.
40. Brief outline of steps in process of making a vase.
41. What is the best way to arrange these nasturtiums? (conversation).
42. How did Early Sea People make pottery?
43. Presentation of May basket to principal accompanied by note or speech of presentation.
44. How did the Indians make baskets?
45. How did early cave men use baskets?
46. Why is wicker good for porch furniture?
47. Why is the pottery of the early Indians not waterproof?
48. Plans for making Christmas boxes for children in hospital (conversation).
49. Letter arranging for visit to library to find how to open new books.
50. Letter telling principal about visit.
51. Set of directions about how to open new books.
52. Rules for use of supplementary library books.
53. How I plan to design the cover of my book (talk from rough sketch).
54. Chart of different kinds of papers—uses, quality.
55. Why do we have drinking fountains at school?

56. Jingles on cleanliness of hands, face, teeth, nails, hair.
57. Why should we stay away from houses on which there are quarantine signs?
58. What is the proper way to wash one's face and hands?
59. List of tools used in laundering—in cleaning.
60. Chart showing tools used by cave dwellers—names, uses.
61. How can one help to decrease the electric light bill?
62. Why is it so important that one always be on time?
63. Why I am saving my money.
64. Traffic rules to be observed near the school premises.
65. Traffic rules presented to the school for adoption (Speech in auditorium).
66. How the traffic officer helps me.
67. Chart showing various means of transportation in the neighborhood.
68. Tell a story that mother and father will enjoy hearing this evening.
69. Why are you responsible for helping to take care of the school building?
70. A letter to the manager of the park asking how children can help in taking care of parks.

C. Social situations

1. List of ways in which the neighborhood may be made attractive.
2. Letter to teacher who is ill.
3. Telling funny incidents about pets or circus animals.
4. Letter to child to accompany book of jokes.
5. Expressing thanks for new clothing, new books.
6. Conversation about cities visited.
7. Telling the reason for absence from school.
8. Invitation to first grade to come to Thanksgiving party.

D. Leisure activities

1. Telling of incidents from story of Robinson Crusoe (Other stories found in supplementary readers).
2. Puppet show illustrating Lion and Mouse; other fables.
3. Plans for a circus (conversation).
4. How do you know Indian music?
5. Program of songs to be sung during Music Week.
6. Posing of pictures about children accompanied by talks and pictures.
7. Letter to art company for list of pictures descriptive of Indian life.
8. Why one person should not stay in the swing all the noon hour.

GRADE THREE

A. Elementary Science

1. Why is the cottonwood tree provided with cotton balls?
2. How can one tell how much a tree has grown during the summer?
3. Why are toads and frogs called friends of the garden?
4. How can one attract birds to his home?
5. How I made my bird house.
6. Why are house flies so dangerous?
7. What is the best way to rid your premises of flies?
8. A daily weather chart.
9. What is the best way to clean the snow from your sidewalk?
10. How can one make a snow shovel?
11. Of what use are the fallen leaves?
12. How do plants help to hold the moisture?
13. Why is spring or fall the best time to transplant shrubs?
14. An illustrated diagram of the parts of a flower.

B. Social science and practical arts

1. Why is milk such an important food?
2. How should milk bottles be cared for?
3. Weekly menu chart kept by each child.
4. How I can make my weight normal.
5. Health rules.
6. How we dried apples.
7. Letter to coffee, fig, date, or raisin company for literature.
8. How did the cave people leave a record of their lives?
9. Booklet of homes of famous people—location.
10. Why do we study the old pottery of cliff-dwellers?
11. Why did Indians live in wigwams?
12. How did the Indian make his wigwam?
13. Why did cliff-dwellers build different houses than Indians on the plains?
14. How did the cliff-dwellers cooperate so that all might have more comforts?
15. Why did the cliff-dwellers worship fire?
16. What is the best way to put out a camp fire?
17. How was the cliff-dweller's home furnished?
18. How do the homes of the Indians of the plains differ from those of the Hebrews?
19. What advantages or disadvantages have the homes of the Indians of the plains over ours?
20. Booklet of primitive homes—names—method of heating—furnishings.
21. Charts of kinds of homes of various races.

22. How can one protect clothing from moths?
23. How did Indians make moccasins?
24. Make a leather chart with words describing quality of leather.
25. Summary of the best kind of shoes to wear.
26. Compare our process of tanning leather with that used by Indians.
27. How did the Navajo women weave blankets?
28. The meaning of the design in my rug (Indian symbols).
29. How to mend a woolen sweater.
30. How did the Indian women obtain their dyes?
31. Compare the dyes used by the colonial women with those used by Indians.
32. How may wool be recognized by burning test?
33. Summary telling how the ancient Hebrews dressed.
34. List of uses of clay in community.
35. Letters to glass company for information about glass manufacturing.
36. Why is brick used in some cities for building more than any other material?
37. Why is a hand-made vase considered more valuable than a factory-made one?
38. Writing from dictation favorite verse from Bible to write on parchment later.
39. Why did Hebrews use parchment for keeping records?
40. How did Egyptians keep their records? (reports).
41. How did Indians keep their records? (reports).
42. Why are books and newspapers more plentiful than in earlier times?
43. Summary of reasons as to why various nations used the kind of material which they did for keeping records.
44. Letter to bookbinders for samples of materials used to bind books.
45. Directions for making paste.
46. Rules for skilful use of paste.
47. Summary of information on location and kind of first famous libraries.
48. Bibliography of books used in study of pioneer life.
49. Why did your family come to the city where you live?
50. Summary of conclusions about why people come to this city.
51. What things can you enjoy here that you could not enjoy in New York?
52. Why does water need to be purified?
53. How is water purified?
54. How is our water stored?
55. How do we pay for the water we use?
56. What did you enjoy most about your trip to Grand Lake Estes Park?

57. Chart showing the public buildings of the city, pictures, names.
58. Why are there so many railroad tracks at the depot?
59. What are the duties of the firemen, brakemen, engineers?
60. Why should one obey signs in public places?
61. What is the proper way to call central?
62. Why did people first come to our state?
63. Why was the settlement made at our city?
64. How did our city get its name?
65. In the early days, how did people come to our city?
66. Telling of stories about the stage coach, Buffalo Bill, Enos Mills.
67. Telling of stories about the Indian attacks, pony express, Santa Fé Trail, buffalo stampede.
68. Experiences of grandmothers and grandfathers in the early days.
69. Outline of the important events in the growth of the city.
70. How does a churn make butter? Mill grind coffee? Meat?
71. Chart showing different ways of cutting grain.
72. List all the uses of water you know.
73. How does a water wheel grind grain?
74. How does the farmer use the windmill?
75. How I made a whistle, drum, violin.

C. Social situations

1. How does the telephone directory help us?
2. Booklet of names and telephone numbers of friends arranged alphabetically.
3. Letter containing jokes to send to child who is ill.
4. When is it excusable to interrupt people who are talking?
5. Window displays (conversation).
6. When is absence from school excusable?
7. An invitation to be present at auditorium exercises written to parents.
8. How can one have a good time on Halloween without being a nuisance?
9. Why is it necessary to be able to tell a story well? (conversation).
10. Ask the janitor to come to Miss C.'s room.
11. How do the school attendance laws help to give children a better chance?
12. Why do people pay taxes?
13. Riddles about animals.
14. Reception to children in other lands (receiving, introducing, talks about countries represented, and welcome to America).
15. Illustrated booklet of children of other lands (explanation of how children live, games, clothing, homes).
16. Original Christmas wishes in rhyme to accompany gifts.
17. Easter greetings or decorated cards for parents.

D. Leisure activities

1. Retell story of Jenny Lind, Patti, Francis Howard Payne.
2. Letter requesting that certain victrola records be lent to room.
3. Invitation to another room to come in and sing with the class.
4. Pose Indian pictures telling what pictures represent.
5. Why I should like "End of the Pier" for our room.
6. Why do all games have rules?
7. Why is John a good leader?
8. Original verses to accompany dramatization of grinding grain.

GRADE FOUR

A. Elementary science

1. Why is the cosmos a popular flower? Morning-glory?
2. How can lilacs be made to bloom in the fall?
3. When does the pine shed its needles?
4. Why is the cottonwood the commonest tree on the western plains?
5. When is a slate roof better than a shingled one?
6. Why are most of our public buildings made of granite?
7. Why do chickens moult?
8. Why is the woodpecker called the surgeon of the tree?
9. How does the magpie build its nest?
10. How can you distinguish a robin? bluebird?
11. How do the mother and father birds provide for their young?
12. Plans for a spring calendar (talks).
13. Bird and flower rhymes.
14. What is the best method of catching trout?
15. Plans for my flower garden.
16. Plans for exchanging shrubs (short talks, involving descriptions, uses).
17. A chart of wild flowers (names, location, illustration, descriptions).
18. How to care for border plants.
19. Why does the cactus grow on the prairie?
20. Booklet: story of our aquarium (containing stories of observations, habits and descriptions of such animals as toads, turtles, water beetles, gold fish).
21. Jingles about water animals.

B. Social science and practical arts

1. Reports on varied stages of growing, drying, and packing raisins, figs.
2. How can eggs be preserved for winter use?
3. What is a good way to cook an egg?

4. Letter to cereal or sugar company for information about raising, manufacturing, product.
5. Where do we get our salt?
6. How our class threshed wheat.
7. How our class ground wheat for flour making.
8. How is flour made in a mill?
9. Compare our method with that used in a flour mill.
10. What games did the Greek children play?
11. Chart showing rubber products, words describing quality of various rubber combinations.
12. How are tires vulcanized?
13. Reports of processes in manufacturing automobile tires, rain coats, hot water bags.
14. Accounts of work done on a rubber plantation.
15. Letter to rubber company for information about production of rubber.
16. Would it be possible to produce rubber in the United States?
17. Letters to stores asking permission to visit china department of store.
18. Reports on visits to store.
19. Summary of information derived from study of pottery map of world (See: Bonser and Mossman, *Industrial Arts for Elementary Schools,* p 303.)
20. Chart showing kinds of pottery, location and characteristics.
21. Outline giving steps in process of making a piece of pottery.
22. Compare the dishes we have with those used by Pilgrims.
23. Accounts of beginnings of alphabets.
24. Directions for making a hectograph.
25. Letters to paper mills for information on paper making.
26. Chart showing different kinds of paper, names, uses, qualities.
27. How is wallpaper made? wax paper? cardboard?
28. Letters to Forest Service for information on wood pulp.
29. Explain the Chinese process of paper making.
30. Outline of how knowledge of paper making spread from China.
31. Chart showing the events which led to discovery of America.
32. An interesting incident from the life of Marco Polo, Cabot, Columbus.
33. Dramatization of the discovery of America.
34. How did John Smith help the colony of Jamestown?
35. A summary of the difficulties that the settlers in Jamestown encountered.
36. A description of the voyage of the Mayflower.
37. How did the new land appear to the Pilgrims?
38. How did Squanto help the Pilgrims?
39. An outline of the characteristics of the life of the settlers at Jamestown, New Amsterdam, Plymouth, Philadelphia.

40. Why do the Eskimos build igloos? Japanese, pergolas? Filipinos, bamboo houses?
41. How did the pioneers build log cabins?
42. How did the miner build log cabins?
43. Chart of colonial furniture, names, materials, descriptive terms.
44. Chart showing different ways in which houses have been lighted.
45. How did our grandmothers light their houses? Colonial people? Early English? Egyptians?
46. Letters to heating plants for literature on heating houses.
47. Charts of different heating devices.
48. What is the best way to heat one's home?
49. Make a booklet showing history of stoves including pictures and paragraphs.
50. How can you get the most heat from coal?
51. Letter to public service company asking for a speaker to tell school assembly the best way to regulate a furnace.
52. Letter inviting fireman to give talk on ways to prevent fires.
53. Letter of thanks after visit.
54. Speech of introduction by child selected by group.
55. How did the Greek homes differ from ours?
56. What is the best way to wash silk?
57. Why is it better to have silk garments dry cleaned?
58. Letters to silk factory for advertising material.
59. How we feed silk worms.
60. How Chinese raise silk worms.
61. How did Daniel Boone dress?
62. Descriptions and pictures of shoes of various nations.
63. Compare flax spinning wheel with the wool wheel used in colonial days.
64. Retelling incidents from stories about colonial life.
65. How can garments be washed so they will not fade?
66. Description of the interior of a Pilgrim home.
67. Why would you rather set the table in your home than in a colonial home?
68. Outline the important events in the life of Washington.
69. An interesting incident from the life of Daniel Boone.
70. How did the early pioneers blaze a trail?
71. What route did an early settler take in going from Jamestown to Kentucky?
72. How was a half-faced camp built?
73. Why did it require courage to be an early settler in Kentucky?
74. Tell an incident which shows the necessity of cooperating in pioneer life.
75. Description of a Dutch oven.
76. A chart showing the work and pleasures of the pioneers of Ohio.
77. How was maple syrup made?

78. Description of a pioneer party.
79. Description of an early passenger boat on the Erie Canal.
80. A summary of the reasons why people were moving westward between 1800 and 1850.
81. If you had been a pioneer would you have settled on the prairie or in the woodland?
82. Compare the effect of the automobile upon the railroad with the effect of the railroad upon the stage coach.
83. A summary of the routes leading to California.
84. Tell the story of the forty-niners.
85. How can one make an iceless refrigerator?
86. What is a California cooler?
87. How may rust be removed from knives?
88. Booklet including pictures of vehicles and showing means of travel at different times in various nations—descriptions—power used.
89. What is the best means of travel at present time? (persuasive talks).
90. Contrast our method of road building with early pioneers—Romans.

C. Social situations

1. How should you use the telephone in case of fire?
2. How should you call police in case of emergency? doctor? ambulance?
3. Letters containing short stories for convalescent child.
4. Letter to parent expressing sorrow for an accident which happened to child.
5. Interesting items in evening paper (conversation).
6. What was interesting about the Thief of Bagdad? (moving-picture—conversation).
7. List of rules concerning respect for property of other people.
8. Why should St. Nicholas be ordered for the library?
9. Conference with the principal to arrange for base for ball grounds.
10. An invitation to parents to see an exhibit of colonial furniture.
11. What do we get in return for the taxes we pay?

D. Leisure activities

1. Illustration and outline of Aesop's Fables. Original fables.
2. Tell the interesting things about the life of Mozart, Shubert, Verdi.
3. How did the Star Spangled Banner happen to be written? Battle Hymn of the Republic?
4. Invitation to curator of State Museum to sing Indian songs in auditorium.

5. Speech presenting speaker to group.
6. What is the best way to mount these colonial pictures?
7. The story of the painter of my favorite picture.
8. Posing of colonial pictures and descriptions of them.
9. Where is the best place to hang the picture of Sir Galahad?
10. How to dance the minuet. Directions.
11. Challenges to sixth grade to play baseball game.
12. What kind of boys and girls do you like to play with?
13. Why did our boys win the game? lose the game?

GRADE FIVE

A. Elementary science

1. How can one have an early tulip bed?
2. How can you recognize quartz? shale? limestone?
3. Why is the dog called man's best friend?
4. In what respect is a dog like his wild ancestors? sheep?
5. How do the characteristics of different breeds of dogs determine their use? horses? cows?
6. How can we help the house finch combat the English sparrow?
7. Why is the wren more useful than the sparrow?
8. Why was the pheasant introduced into Colorado?
9. Why are there fewer insects in fall than in summer?
10. Why are not silkworms raised in Colorado?
11. What are the advantages of mowing weeds in vacant lots?
12. A booklet of wild flowers containing paintings, descriptions, verses, stories.
13. How can one determine what grains will produce the best wheat?
14. How to rid the lilac bush of scale insects?
15. How does sunshine affect plants?
16. Bird Booklet (Illustrations, descriptions, habits of common birds).
17. What is the best way to fertilize the lawn?
18. How should lettuce be planted? radishes? onions?
19. What is the best way to water a vegetable garden?
20. Which is better, to have the garden rows running north and south, or east and west?
21. A chart classifying the perennials and annuals.

B. Social science and practical arts

1. Chart showing different kinds of lumber—classified, hard and soft—names, and descriptive terms—uses—prices.
2. Letter to forest service for bulletins concerning conservation, production, etc.
3. Letter to lumber companies for information concerning cutting, logging, manufacturing.

4. Letter or telephone message to arrange for visit to lumber yard.
5. Booklet containing wood products and brief descriptions of process of manufactures.
6. How does forest ranger prevent fires?
7. How can campers help to prevent fires?
8. Set of rules for campers to observe.
9. Summary of the services of a forest ranger.
10. How does the government re-seed the forests?
11. How does the squirrel help to re-seed the forests?
12. Summary of conclusions drawn from graph showing production of lumber in United States.
13. Diagram of a castle—names and uses of various parts as moat—turret.
14. What effect did the Crusades have upon furnishings of the castles?
15. What effect did the Crusaders have upon clothing of the people—food—art?
16. Booklet of cathedrals—pictures and descriptions.
17. Summary of characteristics of Gothic architecture—exact names to designate.
18. Why is it more sanitary to sweep with a vacuum cleaner than a broom?
19. What is a good way to disinfect the house after a contagious disease.
20. Set of rules to be observed by the class in order to keep contagious disease from spreading.
21. Invitation by letter or phone to health officer to tell how children can assist the health department.
22. Introduction of speaker by child selected from group.
23. Chart of floor coverings—names—prices—colors—designs—materials.
24. Reports on sheep shearing (*Ramona,* by Jackson. *Story of Wool,* by Bassett).
25. Incidents of shepherd life from *Bible.*
26. Letter to American Woolen Company, Boston, Massachusetts for *From Wool to Cloth.*
27. Summary of conclusions from a graph showing production during war period.
28. What is the best way to clean woolen garments?
29. Why should woolen garments be aired often?
30. Why is the West suitable for sheep raising?
31. How is the Bighorn sheep of Rocky Mountains related to domesticated sheep?
32. What activities of ranch life do you enjoy?
33. Describe a ranch house (Roosevelt—*Bighorn Sheep.* Ramona's own experience).

34. Stories about shepherd dogs.
35. Letter to forest service for information about grazing regulations.
36. Letter to children in cotton growing section asking for exchange of materials.
37. Talks on correct shoes for children based on study of foot chart.
38. Summary of ways to identify different ways of making pottery.
39. Letter to pottery companies for information about pottery industry.
40. Chart of clay products—uses—names—descriptive terms.
41. Reports on how stained glass windows are made.
42. Reports on stained glass windows seen in churches.
43. How does the etcher make a design upon brass?
44. Why are metal vases made by hand more valuable than manufactured ones?
45. Describe an illumination about which you have read.
46. Original verse for Easter, Christmas, Valentine cards—(illuminated lettering).
47. Booklet showing the development from Indian signals to radio.
48. Outline the steps in the production of chocolate, coffee, quinine, rubber.
49. Tell the story of the discovery of gold in California.
50. How did the earliest settlers of Colorado make their living?
51. Why do we remember Clara Barton? Abraham Lincoln? Longfellow? Edison? Clemens?
52. Telling interesting incidents from books.
53. What are the pleasures of the Swedish children? French? Spanish?
54. Description of desert journey (retold from *Lance of Kanana*).
55. Description of an island in Mississippi from *Tom Sawyer*.
56. Description with illustrations of Tom Sawyer, Long John Silver.
57. Original poems descriptive of western life.
58. Letters to harvester companies for information concerning history of inventions and development of farming machines.
59. Chart showing development of machines for growing and milling wheat.
60. Summary of how different farm machines work.
61. How have machines affected the population of rural districts?
62. What effect has the automobile upon the pleasure of people?
63. Letters to foundry for permission to visit.
64. Letter of thanks after visit.
65. How is a horseshoe fitted?
66. Reports on process of casting.
67. Outline of development of organ.
68. Outline of development of piano.
69. Chart of musical instruments—names—descriptions of instruments and tones—pictures.

C. Social situations

1. Set of rules for courteous use of telephone.
2. Letter to child who has met with accident.
3. Letter of sympathy to child who has lost a member of family.
4. Conversation about a trip to stock show.
5. Advertisements for lost articles.
6. How can you make people wish to buy tickets for the school entertainment?
7. Summary of proper way to sell tickets.
8. Invitation to parents to come to Christmas exercises.
9. Poster announcing baseball game, bazaar.
10. Courteous excuse to teacher upon return to school.

D. Leisure activities

1. Book reviews expressing individual opinions.
2. Summary on composition of folk songs.
3. Collection of pictures representative of western life (give titles).
4. Where I wish to spend my vacation (based on picture collection).
5. Posing patriotic pictures—talks about occasions which inspired their painting.
6. Set of rules for hanging pictures.
7. How to dance the Virginia Reel.
8. Book of directions for pioneer dances.

GRADE SIX

A. Elementary science

1. Whát is the best way to preserve dahlia roots during the winter?
2. How my garden will look in June.
3. How can one recognize the yellow pine? blue spruce? lodge pole pine? juniper? poison ivy?
4. How can one recognize iron ore? silver? gold?
5. What causes the price of gasoline to vary?
6. How can one distinguish the birds of prey?
7. Describe the eyes of an eagle.
8. Why do we have fish and game laws?
9. A letter to a seed company for a catalogue of seeds.
10. Plans for beautifying the school grounds.
11. Summary of conclusions from study of the moon for one month.
12. Reproductions of Greek myths concerning the constellations.
13. What causes an eclipse of the sun?
14. What evidence is there to prove that this region was once the bottom of the ocean?
15. How to make a fireless cooker? refrigerator? thermos bottle?

B. Social science and practical arts

1. Making a food chart.
2. A suitable menu for luncheon, dinner, breakfast.
3. Letters asking for food bulletins.
4. Rules for lightening doughs and batters.
5. Height and weight chart.
6. Poster illustrating proper table manners.
7. Describe a typical medieval meal (See: *Ivanhoe* and *Men of Iron*).
8. Summary of the effects of the Crusades on cooking.
9. Compare our present methods of cooking with those of medieval times.
10. Why I advise you to buy this rug for your living room, dining room.
11. Why I chose this wall paper for my bedroom, kitchen, bathroom.
12. Letter to furniture company for catalogue.
13. Visit to furniture store arranged by letter, telephone, or personal visit.
14. Chart classifying furniture of different periods.
15. Summary telling distinctive features of furniture of different periods.
16. Letter to cement company for information about how cement is used.
17. How to make a bird bath?
18. How to make a window box?
19. How is tile roofing made?
20. How are asbestos shingles made?
21. Summary of conclusions on study of whether it is cheaper to rent or own one's home.
22. What is the advantage of painting your roof often?
23. How can one make the back yard attractive?
24. What are the advantages of having an orderly basement?
25. Set of rules for preventing fire in the home.
26. How can an old floor be improved?
27. Why is it difficult to procure textiles with fast colors?
28. What is the best way to prepare the sack for flax?
29. Summary of tests in discriminating four textiles.
30. How did factories for making textiles begin?
31. Why should children not work in factories?
32. Why do almost all woolen garments contain some cotton?
33. Chart showing head wear of various nations, names, and descriptive terms.
34. How can I care for my hat to keep it looking well?
35. What is the best kind of hat to wear in the summer?
36. Why is it important to have one's shoes fitted carefully?
37. Summary of conclusions based on clothing budget.

38. What is the best way to darn a pair of stockings? to mend a tear in a woolen garment, cotton garment, taffeta garment?
39. What is the best way to launder different materials?
40. Summary of methods of laundering different kinds of materials.
41. A foot chart showing effect of various kinds of shoes.
42. Letter to arrange visit to pottery or brick yard.
43. Letter of thanks.
44. Summary of information gained from visit.
45. Summary of points to be considered in purchasing set of dishes.
46. Summary of effects of Crusades upon printing.
47. Set of rules for care of books.
48. Chart summarizing story of invention of printing.
49. Outline of events that led to discovery of America.
50. Why do you believe Gutenberg has the best claim to invention of printing press?
51. How is the printing press useful to you?
52. Letter to publishing companies for information and samples about making colored illustrations.
53. How is calico printed? How are stencils made?
54. Chart of devices for writing and communicating other than printing (victrola, typewriter, dictaphone, telephone, telegraph, mimeograph).
55. Reports concerning civic interests from newspapers.
56. Reports concerning national interests from magazines and papers.
57. What is the best way to crank a Ford?
58. How can one start a car quickly on a cold morning?
59. Diagram of automobile, names of parts, uses, how to operate.
60. Letter to automobile companies for illustrative material on growth of industry.
61. Why does a ship float?
62. How did sailors set the sails to suit the wind?
63. How does a stereoscope (microscope, telescope, field glass, opera glass, thermometer, barometer) work?
64. How does a head gate operate?
65. How is water stored for irrigation?
66. Can our dry lands be irrigated?
67. Letter to public service company to find how our electric power is produced.
68. Why is it more possible to have shorter working days now than in the past?
69. Why is a working day of eight hours better than one of ten?
70. Summary of conclusion from record of how time is spent out of school.
71. Weekly schedule for use of time.
72. Set of safety rules.
73. Presentation of set of safety rules to be adopted by school (speech).
74. Summary of effect of invention of cotton gin on raising cotton

C. Social situations

1. Rules to observe in conversation.
2. Buildings under construction (conversation).
3. Conversation about trips taken.
4. Regulation about care of lost and found articles.
5. Letter of congratulations to class who won the Thrift Banner.
6. Invitation to parents to be present at dramatization.
7. Letters to absent children telling what the class is doing.
8. Rules for conducting class meetings.
9. Record of the minutes of a meeting.
10. Incidents to show that caution is necessary in performing courageous deeds.
11. Ballots for election of school officers.
12. Rules for conducting class selections, school elections.
13. What constitutes a good school citizen?
14. Summary of qualifications of good citizens.
15. Verses, rhymes, and limericks for valentines.
16. The valentine tells its story (puppet show).
    Characters: lace paper, blue bird, violets, clasped hands, verse.
17. The Ruggles get ready for Christmas.
18. Dramatization from *Bird's Christmas Carol.*
19. Writing of verses for Christmas cards.
20. Tell stories of Longfellow's life (for Longfellow's birthday).
21. Letter to Walter de la Mare on birthday, telling how much they enjoyed *Peacock Pie.*
22. Posters showing correct forms (for Good English Week).
23. How can you estimate how much you should charge for mowing a lawn?
24. Why is it necessary to make any job a success?
25. What is the best way to apply for the work one wishes to do?
26. How can you make your services worth what you are paid?

D. Leisure activities

1. Reports from newspapers about deeds of heroism.
2. Reports of interesting habits or characteristics of birds.
3. Which contributed most toward the growth of our country: Franklin, Edison, Kit Carson, Longfellow, Schumann-Heink, Douglas Fairbanks, Maud Adams.
4. Summary of conclusions from reports about contributions of famous people.
5. Original ballads on deeds of favorite heroes.
6. Incidents in life of Alcott, Clemens.
7. Retelling of opera stories.
8. Chart classifying folk songs of different nations.
9. Summary of characteristics of different peoples (based on folk songs).

10. Booklet of pictures, statues, monuments, buildings in our city, containing descriptions and pictures.
11. Announcement of baseball game in auditorium.
12. Diagram showing how to keep score for ball game.
13. Report for bulletin board about an exciting game.

Illustrative Lessons

These illustrative lessons are concrete examples of how the content subjects and the social life of the child may be used as a means to securing desirable outcomes in the study of English. They are not to be definitely followed, but they suggest possibilities for purposeful language work of many types. Those given in any grade may be suggestive for other grades. Every teacher should read them all. To do effective work in language, it is not necessary that long involved projects be used. Frequently the desirable outcomes may best be accomplished through the use of single lessons; such as, practice in introducing a speaker or giving reports to the class, writing a note of thanks, or making a notice for the bulletin board.

Most of the reactions of the children included in these illustrative lessons are the best results obtained. In some cases they are the first draft of the child's work and in no case has any correction been made. These examples of the actual work of the child will help the teacher to evaluate the work of the grade.

Since power to use language effectively increases gradually, there are no set methods for attaining results grade by grade. In most cases method does not change materially from grade to grade.

GRADE THREE

A Primitive Child of Colorado

The cliff child's home—Pictures of the cliff dwellings were collected. The Mesa Verde was located on the map. A ground plan of the home showing the rooms of the house, the grain bin, reservoir, stone wall with pegs, and the cliff walls was constructed. (See plan in *Lolami—The Little Cliff Dweller*—by Clara Kern Bayliss.) Cliff dwellings were reproduced on the sand table using clay and papier-mâché.

The class pictured the cliff dwellings on the side of a mountain under a rocky ledge, high above deep ravines. The means of approach to their primitive homes were suggested by the stairs cut in the rocks and the wooden ladders. In constructing the lower story of the house they discovered that there should be no windows and therefore the only way that the cliff dweller could go and come was through the hole in the roof. This made it clear to them why Lolami had to remain in the dark storeroom.

They tried to suggest the fertile bottoms of the canyon where the corn, beans, gourds, and other vegetables were grown; also the barren stretch of sand dotted here and there with sagebrush, cactus, yucca, and scrubby cedars.

The construction work acquainted the class with these expressions:

Deep chasm
Granary
Courts
Dead rivers
Perched in a nook
Rocky ledge
Plateau
Painted in red
Kiva
Nitche stairway
Overhanging cliff
Clefts in the rock

Uses the cliff dweller made of fire—Topics: Why Lolami needed a fire, how Lolami made a fire, why I like to watch the fire, how the cave man used fire, how the boy scout makes a fire, our camp fire, and why I am careful to put the fire out.

Assignment—Tell your story in three or four sentences. If you want your story to interest the class, you must learn to speak in sentences that are not joined by "and," "and so," or "and then." The following compositions are examples of the children's work:

How Lolami made a fire—He was rubbing two sticks together when suddenly the dry grass burst into a flame. It soon went out because there was so little of it. He tried it again using an old bird's nest and some small sticks. When he got a good blaze, he put on a big log.

The need of fire—The air was cold and chilly. The ground was covered with snow. I shivered and my teeth chattered. My fur clothing was not enough to keep me warm. I must have a fire.

The children showed by their conversation that they appreciated the mystery and beauty of fire as well as its use. An opportunity arose here to introduce verse.

Conversation—Do you think if you were to tell of the cliff child's fire in verse, it would help us to see the picture? What are some of the words, or groups of words, that would help to give a beautiful picture of the fire?

These include the contribution of the teacher and class:

bright
sparkle
heat
hot
burst
flame
light
burn
cook
reddening glow
blaze
kindle a fire

After the children had given many suggestions for the first line, this one was selected: "I must kindle a fire so bright." Another child added the second line which rhymed with the first line. This gave the rhyme scheme. They tested the rhythm by tapping as they do in music.

Conversation—How many have watched a fire blaze? What motion does the blaze make? Can you suggest the rhythm of the fire by the motion of your hands or feet? (Several children responded, giving the correct rhythm.) Can you give two lines of verse to fit his rhythm? (Many are suggested.)

Assignment—Write a short verse picturing the fire and suggesting the rhythm. Begin every line of your verse with a capital.

When the verses were completed, the rhythm was tested. In doing this, they were allowed to dance around an imaginary fire and respond to the rhythm in their own way. Some were able to suggest the primitive dance.

Indian pottery[1]—The class brought as many pieces of Indian pottery as they could secure. The colors and the meanings of the designs were discussed. Designs on the pottery were compared with designs in baskets and blankets. The similarities in motive line and rhythm were observed.

The following books give the key to the designs and offer other helpful suggestions:

Weavers and Other Workers. Jennie Hall.
Hiawatha Industrial Reader.
Indians of the Southwest—(Published by the American Museum of Natural History. Handbook Series Number 2.)

After the children had learned the key to the symbols in the pottery, baskets, and rugs, interest was aroused in drawing pottery and rugs using Indian symbols. When their drawings were completed they repeated the story told in the design. The following topics suggest some of the Indian designs that were drawn and described:

An enemy has crossed our trail
A whirlwind
The four winds
Waves
Human footprints
Mountains

Writing a letter—To enrich our collection of Indian pottery and baskets, we decided to borrow from one of the patrons of the school. The request was made in the form of a letter. Each child wrote a letter expressing his request in his own individual manner. The best one was selected by a vote of the class.

How the cliff child protected himself from the enemy—Individual response is shown in these results:

Hid Safely

I went up the ladder like lightning when I saw the enemy. When I got inside, I drew the ladder in and closed the trap door. How frightened I was when I heard the wild yells! They searched for me and then went away.

Hid in a Corn Bag

I was grinding corn when I saw the savages coming. I pulled the ladder inside and closed the trap door, but still I did not feel safe. Spying an empty corn bag, I crawled in. I heard the savages yelling but felt very safe in the corn bag.

What the cliff child saw on his trip. Conversation—The cliff child is eager to see the world about him. What preparation will he make for his trip? What food will he take with him? (Corn, beans, dried meat, a leather bag of water.) What kind of flowers will he see on his trip? (Columbine, harebell.) What kind of trees and shrubs will he see? (Sagebrush, cactus, yucca, scrubby little cedars.) What animals will he see? Can you describe the mountains and the desert as he saw them? How would you describe the cliff homes that were perched above the canyon?

With chalk, charcoal, or water colors, the children suggested the landscape of the Mesa Verde. In doing this, the child pictures mentally, the rugged mountains, the wide stretching sand, and the curious homes that are perched in every nook of the canyon.

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[1] See: Bonser and Mossman. *Industrial Arts for Elementary Schools.*

GRADE FOUR

The Pilgrim Child

A series of language lessons which illustrate the progressive steps in attaining desirable outcomes in oral and written language. The social and industrial activities were centered around the life of the Pilgrim.

The following problems were chosen for study in the language class:

1. What difficulties did Pilgrims encounter in crossing the ocean?
2. How did the work of the new country differ from occupations of today?
3. What are some of the Indian legends which a Pilgrim child might have heard?
4. What messages were sent to friends and relatives in England?
5. What were some of the funny experiences that the Pilgrim children had?

Problem I

What difficulties did Pilgrims encounter in crossing the ocean?

After reports based on reading, the children wrote summaries dealing with the above problem. The teacher asked the class if the difficulties of the Pilgrims were over when they reached the new land. After some discussion, she read *The Landing of the Pilgrims* by Hemans.

After the second reading of the poem, the class were asked to illustrate it with charcoal and write a word picture on the opposite side of the page. They were encouraged to make the illustration and description as beautiful as the mental picture. Comparison and evaluation of each other's work was an important feature of this exercise. The poem was reread and the drawings and compositions that best illustrated it were selected by the class to be placed on the bulletin board.

Problem II

How did the work in the new country differ from the occupations followed today?

The children made soap and candles about which they wrote accounts.

A picture of the Pilgrim mother knitting by the cradle was brought by a member of the class. The class thought that perhaps the mother was singing the baby to sleep. The question, "What kind of a song do you think the mother is singing?" made an opportunity for introducing lullabies.

Familiar lullabies were collected which were read and discussed by the class. A vote of the class proved that "Sweet and Low" was the most popular. The selection was made from the following lullabies:

Rock-a-bye, Baby	Mother Goose Rhymes
Baby Bye	Theodore Tilton
Wynken, Blynken and Nod	Eugene Field
Sweet and Low	Alfred Tennyson

Writing a cradle song—The class thought it would be fun to make a song that the Pilgrim mother might sing.[1] A doll cradle which resembled the baby cradle used in colonial days was brought to school. Various ones took turns in rocking the cradle and humming some lullaby that they enjoyed; others tried to put new words to the old tunes; others attempted to put new words to new melodies. They sang about what the mother might sing; they caught the soothing feeling expressed in the swaying of the cradle. The results of the experiment were crude and childish, but there was evidence of growth in their power to express ideas in verse.

During the music periods that followed, much time was given in experimenting with melodies to fit the verse. Several children made up tunes to fit a line or two which were written on the board. The class sang these new tunes and then expressed their feeling as to what was suitable or unsuitable. This kind of work is most desirable since it gives the child an opportunity to evaluate, judge, and also learn something about the technique of music. After some time had been spent in experimenting with melodies, the class voted on the one they wanted to use for their program.

Spinning—The question, How did the Pilgrim girls help their mothers?, was answered by the class giving reports about the baking, brewing, weaving, spinning, and knitting.

Pictures and stories of these household industries were collected. The children were especially interested in the spinning and weaving process.[2]

Through the use of pictures, the difference between the flax wheel and the wool wheel was noted. Reports were given to explain the difference. A booklet was made which contained pictures, reports, poems, and songs about spinning wheels.

Problem III

What are some of the Indian legends which a Pilgrim child heard?[3]

Books containing Indian stories were given to the children. Reports and conversation developed the fact that Squanto who was friendly with the Pilgrims and came to visit them, often told wonderful tales of the great spirits, of charms, and magic. The question naturally arose as to what stories a Pilgrim child might have heard as he listened to Squanto.

Many of the Indian stories are long. If an outline is put upon the board two or three children may participate in telling the story.

Example—Legend of Lightning

By an outline the story was divided into two parts: (1) Aiming at the Manitos, and (2) My punishment.

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[1] At this time the class was planning a Thanksgiving program.

[2] See Earl, Alice Morse. *Home Life in Colonial Days.* Macmillan, 1898.

[3] Cooke, F. J. *Nature Myths.* A. Flanagan Co. 1919.
Holbrook, Florence. *Book of Nature Myths.* Houghton Mifflin Co. 1902.
Judd, M. C. *Wigwam Stories.* Ginn & Co. 1901.
Longfellow, H. W. *Song of Hiawatha.* Houghton Mifflin Co. 1883.
Pratt, Mary L. *Legends of the Red Children.* American Book Co. 1896.
Zitkala-Sa. *Old Indian Legends.* Ginn & Co. 1901.

The first child told the following:

I raised my last arrow and with skill drew the cord. Straight at the heart of the Manitos I sent it. It was hardly half-way across the field when the Manitos changed himself to a mighty mountain. He looked black and grim against the sky.

The second child continued:

A voice roared from the mountain saying, "You have wasted all the arrows, I shall now punish you. For all time you shall be like your arrow, flashing and shooting across the sky." Then came a crash of thunder. The north wind lifted me up and hurled me across the sky.

The children pictured Squanto telling stories of the winds and singing the song of each. The class told stories about the Four Winds that showed their distinctive characteristics. The cold and cruel North Wind was contrasted with the dreamy, lazy South Wind. Various children suggested the difference through dancing.

Problem IV

What messages were sent to relatives in England?

The pupils told stories concerning the experiences of the Pilgrim children about which they might write to friends in England. These wer the titles of the best stories told: Lost in the Woods, An Indian Attack, A Corn-cob Doll, A Friendly Guest, Exchanging War Messages, and Ou Last Candle.

It was then suggested that the same material be put in letter form. In writing the date, it was necessary to figure out the year. They knew that Oceanus was born on the Mayflower and if he were nine years old at the time of the writing the date must be 1629. The class were also interested in the names used by the Pilgrims. After making a list of the names used in those days, each child selected the one he desired to use for his signature.

This activity offered much fun which motivated the drill work for the written mechanics involved in letter writing.

The most original of the letters which are shown below illustrate the possibilities for creative work:

Plymouth, Mass., May 7, 1627.

Dear Grandmother:

Mother told us not to go into the woods too far. Prudence and I were gathering flowers and did not know we were so far away. The farther we went the prettier the flowers were. We sat down to cry because we didn't know the way home. A friendly Indian came and took us home.

Your grandchild,
Oceanus.

Plymouth, Mass., Sept. 9, 1628.

Dear Aunt Mary:

My sister cried for a doll today. I made her one from an ear of corn. I took all the kernels off but left one for each eye, two for a nose, and four for a mouth. The silk I used for hair. The leaves made a pretty green skirt. For a cap I used two leaves and tied them together. I used the hard stalk for arms and legs.

Your niece, Prudence.

GRADE SIX

A Trip to Europe

A letter-writing project—In connection with the study of Europe, a 6B class undertook the making of a scrapbook and book of travel, a joint English and geography project. A printer in the neighborhood supplied them at small cost with perforated cardboard sheets, 12 by 14 inches, and with a substantial cardboard cover. There was one large book, to represent the work of the entire class, not one book for each child.

Many titles were suggested; such as, "Scraps of Ye Olde World," "European Scraps," "Across the Sea," "A Book of Travel"; but "A Trip to Europe" was finally chosen as most suitable for their purpose. The decoration of the cover and the printing of the title were assigned by class vote to a child with considerable artistic ability.

The book represented a trip to Europe with letters, maps, clippings, and many pictures from each country visited. It was agreed that each child should write all his letters to his mother, so that when the best of each series was chosen for the book it would present a certain unity, all the letters being to one person.

As the class took their imaginary trip through Europe, each child wrote a letter from every country. The child tried to tell something of the customs of the country and the life of the people, also things of interest about the particular city from which he was writing.

In addition to the letters, some original poems about the various countries were written, and some interesting myths, legends, and stories of history were reproduced. Clippings and pictures from newspapers, magazines, advertising matter (especially from railroad and steamship companies) and old geographies were brought by each child. These were then sorted and classified, and each child given a certain page to work up for the book, as, "Industries," "Scenery," and the "Royal Family." One boy drew and painted the flags for all the countries.

So much material was brought that it was not possible to use a large amount of it, so the class chose what they considered the best and most representative. Some of the left-over material was used in making posters.

This project practically supplied the semester's work in geography and written English, and the class did not seem to tire of it, as each new country brought added variety into the work.

Below are exact copies of work done by the children:

Belfast, Ireland,
Oct. 8, 1924.

Dear Mother:

I wish you were here to see all the strange and beautiful things I have seen since arriving in the British Isles.

I have visited the Blarney Castle. While the guides held our feet, we tried to kiss the stones below. The Castle is covered with ivy which is very, very beautiful. In fact all the buildings are covered with it.

I have also visited the linen factories. It is very interesting to watch the process of making the flax into linen.

The scenery is very beautiful. Ireland has been called the Emerald Isle because the grass is always green. There is always a blue haze hanging over Ireland. The mountains are very beautiful. There are many pretty lakes, the most noted being the lakes of Killarney. The beautiful old castles add much to the beauty of the landscape.

The people are very poor because most of the land is owned by the English and the rent is very high. But the people are always happy. They are great believers in fairies and one hears fairy stories everywhere. The chief food crop is potatoes, and the poor people almost live on them.

I am having a wonderful time and I am sure I will have a fine visit while I am here.

Your loving daughter,
Ethel.

Glasgow, Scotland,
Oct. 8, 1924

Dear Mother:

Day before yesterday I was in Edinburgh and I came to Glasgow by train. This afternoon I went to the shipyards and saw a large ship leave the dock and slide into the water. It made a great wave and I thought it would capsize some small boats that were moored nearby. Glasgow is one of the largest shipbuilding cities in the world.

Next week I hope to see Ben Nevis, the highest mountain in Scotland. I also hope to see Loch Lomond, a large lake. There are many beautiful lakes in Scotland.

The history of Scotland is full of clan wars and interesting stories. Scotland was an independent country a long time ago. Scotland is the second largest country of the British Isles. Everywhere you see castles of olden times and many of them are very beautiful.

As our train sped through the country, I saw many hillside farms where oats were grown. The farms were small and rocky, but the great industry of the Scotch people has made them produce good crops. On many hillsides I saw shepherds with small flocks of sheep and always a collie dog.

Your loving son,
Frederick.

London, England,
Oct. 17, 1924.

Dear Mother:

I just arrived in London yesterday. London is the capital of the British Isles as you know. If you should travel day and night for a year you could not cover the city. That gives you some idea of how big a city London is. London is the second city in size of the world and it is located on the Thames River.

The children play the game of "London Bridge is Falling Down" and it looks as though it would fall down the way the traffic goes over it. Other places of interest in London were Westminster Abbey, the Houses of Parliament, London Tower, and St. Paul's Cathedral. Around London are beautiful farms. They are unusually small, and have houses with thatched roofs. Many of the houses are overgrown with ivy. The northern part of England is very dirty and smoky and is called the dark part of England. Its great industries are mining and manufacturing.

Your affectionate son,
Joe.

CHAPTER X

OUR LITERARY HERITAGE

Joy Elmer Morgan, Editor, *The Journal of The National Education Association,* Washington, D. C.

AN OLDER VIEW of our literary heritage regarded it as a treasure chest of fine selections, handed down from the past, to be drilled into the memories of children. A newer view looks upon our literary heritage as a love of beauty in literature combined with the habit of enjoying a growing wealth of writings so good that they can be fully appreciated only as they are memorized. The older view emphasized words; the newer view aims to develop a feeling for the ideas back of the words. In the older view memory was a granary. In the newer view it is a tool. The older view placed chief emphasis on the sheer act of recall. The newer view puts chief emphasis on a widening of sympathy and understanding with recall as an important by-product. The older view turned the child's thought toward the past. The newer view builds on the past but makes the discriminating quest of new beauty a great adventure.

In an effort to draw the attention of teachers generally to the newer view which is beginning to make itself felt in many schools, *The Journal of The National Education Association* began in June, 1925, to collect expressions of opinion covering memory selections and the method of choosing them. It was explained that a small part of our literature is so fine in thought and so beautiful in form that we wish our children to build it into their very lives to form a background of American ideals, a philosophy of life, and an appreciation of the beautiful in nature and in literature. A list of authors and titles, including ten or more items for each of the first eight grades, was arranged in ballot form and printed in *The Journal.* These preliminary lists were taken from an analysis of fifty representative courses of study in American cities of various sizes, which was made in 1920 by Velda C. Bamesberger.[1] Blank spaces were left for the addition of other titles. Teachers and others were asked to vote their choices and to send the ballots to *The Journal* office for tabulation. The ballot was repeated in various forms during succeeding months and the selections which ranked highest in the voting were published.[2]

On January 1, 1926, 372 ballots had been received. Some of these represented the judgment of several teachers. Others were based on votes by classes of children.

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[1] Bamesberger, Velda C. Standard Requirements for Memorizing Literary Material. University of Illinois Bulletin, February 23, 1920. 93p.

Another recent study of importance is: Stitt, Edward W. Memory Selections, Their Value and Importance. Improvements Recommended. N. Y., Hinds, Hayden, and Eldredge, 1925 295p.

[2] *Journal of The National Education Association,* page A-177, June 1925; pp. 229-31; October 1925; 263-64, November 1925; 297-98, December 1925; 25-26, January 1926.

The selections for each grade which received the highest number of votes are given below:

POEMS	Number of Votes	Rank
GRADE I		
Stevenson—My Shadow	251	1
Taylor—Twinkle, Twinkle, Little Star	204	2
Stevenson—Swing	190	3
Field—Why Do Bells for Christmas Ring?	179	4
Alexander—All Things Bright and Beautiful	177	5
From the German—Sleep, Baby, Sleep	171	6
Cooper—Come, Little Leaves	163	7
Stevenson—Rain	149	8
Rosetti—Wind	129	9
Stevenson—Autumn Fires	85	10
Tennyson—Bird and the Baby	84	11
Brown—Little Plant	57	12
GRADE II		
Longfellow—Hiawatha's Childhood	235	1
Ingelow—Seven Times One	154	2
Lear—Owl and the Pussy Cat	143	3
Cary—Suppose	136	4
Stevenson—Wind	119	5
Houghton—Lady Moon	115	6
Larcom—Brown Thrush	113	7
Child—Thanksgiving Day	109	8
Field—Rockabye, Lady	106	9
Stevenson—Land of Story Books	104	10
Sherman—Daisies	82	11
Field—Dutch Lullaby	79	12
Kingsley—Lost Doll	79	12
Stevenson—Windy Nights	56	14
Miller—Blue Bird	54	15
Allingham—Fairies	51	16
Field—Duel	45	17
Coleridge—Answer to a Child's Question	43	18
Sherman—Four Winds	26	19
GRADE III		
Longfellow—Children's Hour	257	1
Brooks—O Little Town of Bethlehem	245	2
Rands—Great, Wide, Beautiful, Wonderful World	221	3
Moore—Visit from St. Nicholas	173	4
Longfellow—Hiawatha's Sailing	172	5
Jackson—September	152	6
Hogg—Boy's Song	106	7
Krout—Little Brown Hands	96	8
Cary—November	80	9
Field—Norse Lullaby	63	10
Allingham—Wishing	62	11
Aldrich—Marjorie's Almanac	59	12
Bjornson—Tree	54	13
Tennyson—Owl	48	14

POEMS	Number of Votes	Rank
GRADE IV		
Longfellow—Village Blacksmith	266	1
Jackson—October's Bright Blue Weather	223	2
Longfellow—Arrow and the Song	198	3
Tennyson—Brook	190	4
Bryant—Robert of Lincoln	177	5
Thaxter—Sandpiper	176	6
Lowell—First Snowfall	166	7
Riley—Brook Song	93	8
Field—Night Wind	71	9
Gould—Frost	54	10
Tate—Christmas	51	11
Lowell—Fountain	46	12
Wordsworth—Lucy Gray	36	13
GRADE V		
Longfellow—Paul Revere's Ride	235	1
Whittier—Barefoot Boy	224	2
Hemans—Landing of the Pilgrims	224	2
Whittier—Barbara Frietchie	145	4
Morris—Woodman, Spare that Tree	133	5
Longfellow—Day is Done	130	6
Bryant—Planting of the Apple Tree	113	7
Whittier—In School Days	110	8
Longfellow—Old Clock on the Stairs	103	9
Shakespeare—Under the Greenwood Tree	81	10
Longfellow—Excelsior	73	11
Carlyle—Today	71	12
Whittier—Corn Song	71	12
Bryant—Gladness of Nature	44	14
Jackson—Down to Sleep	38	15
Emerson—Fable	32	16
GRADE VI		
Wordsworth—I Wandered Lonely as a Cloud	215	1
Holmes—Old Ironsides	214	2
Longfellow—Psalm of Life	207	3
Hunt—Abou Ben Adhem	198	4
Tennyson—Charge of the Light Brigade	164	5
Drake—American Flag	164	5
Longfellow—Builders	161	7
Tennyson—Break, Break, Break	138	8
Tennyson—Bugle Song	125	9
Cary—Nobility	88	10
Aldrich—Before the Rain	63	11
Wolfe—Burial of Sir John Moore	54	12

POEMS	Number of Votes	Rank
GRADE VII		
Longfellow—Building of the Ship	238	1
Tennyson—Sir Galahad	227	2
Bryant—To a Waterfowl	221	3
Miller—Columbus	183	4
Emerson—Snowstorm	167	5
Macaulay—Horatius	146	6
Taylor—Song of the Camp	115	7
Browning—Home Thoughts from Abroad	111	8
Lowell—Fatherland	83	9
Holland—Gradatim	80	10
Lowell—Yussouf	62	11
GRADE VIII		
Scott—Breathes There a Man	223	1
Kipling—Recessional	190	2
Holmes—Chambered Nautilus	174	3
Whitman—O Captain! My Captain!	159	4
Bryant—Thanatopsis	156	5
Whittier—Snowbound	151	6
Lowell—Day in June	146	7
Shakespeare—Mercy Speech	128	8
Sill—Opportunity	91	9
Gray—Elegy Written in a Country Churchyard	91	9
Burns—For A' That and A' That	88	11
Shelley—Cloud	76	12
Holmes—Last Leaf	58	13
Shakespeare—Polonius to Laertes	48	14
Pierpont—Warren's Address	30	15

The selection indicated by these votes should not be taken as final. It would not be final were the votes numbered in millions rather than hundreds. It is the *process of selection* by teacher and pupil participation that is important. Under an ideal arrangement there might be several lists of this kind as follows:

1. A national list suggesting the materials that are most widely valued throughout the nation.
2. A list in each state, which would include material from the national list, but which would represent the judgment of workers within the state.
3. A list for each county or each city worked out in cooperation by the teachers and the children after careful study of the national and state lists.
4. A list made up by each grade or group of pupils as an expression of its collective judgment and taste, after consideration of other lists.
5. A list made up by each pupil and filed with the teacher, indicating the selections which he loves and would enjoy memorizing.

The material in each list might well be divided into two classes—first, material to be memorized and to be carried forward cumulatively from grade to grade so that each pupil is expected to know the specified items of his and all preceding grades; second, less important material to be memorized without special effort to carry it forward from year to year.

The pupils' individual lists should be revised each year and the other lists at longer intervals. The important aims are joy in literature and the habit of memorizing as a means of fuller appreciation. In the end this is an individual matter. It is better for children not to memorize at all than for such work to be made disagreeable and irritating.

Proportions of old and new material—There are several reasons why old material tends to retain its place in memory lists when new material of better quality is available. First, the scissors and paste method of making courses of study and textbooks has copied the past. Second, teachers are likely to appreciate most what they themselves learned as children and to pass this on in the form of requirements or enthusiasms. Third, new selections of merit are commonly restricted in their distribution and use by copyright requirements. Fourth, school, home, and public libraries have only recently been used freely as an aid in the development of literary appreciation. Fifth, the organization of the school courses in teacher training institutions, and the load placed on teachers have been such as not to encourage most teachers to make themselves students of the growing literature of childhood. For example, there is awarded each year a prize for the most outstanding children's book produced in America. An inquiry before a large institute of fairly well-trained teachers did not reveal one who had heard of these prize books even though the project had been under way for several years.

The literature of childhood grows richer each year and the big task of the school is to prepare children to be discriminating consumers of the new as well as the old. Three lists, each from a school system which is doing notable work in this field, are included here because of their helpfulness in dealing with new material.

Helen K. Mackintosh, assistant professor of elementary education, University of Pittsburgh, writes:

> I have attempted to suggest two poems for each grade suitable for memorization. The fact that these poems are to be memorized limits to a certain extent the choice of selections that can be made. In my experience, these are selections which children have often chosen. I have included *Between Two Loves,* an Italian dialect poem, because children have invariably chosen this type of poem when selections have been submitted to them for choice. I believe these poems represent material in which children are actually interested.

The list follows:

Grade I

Hoppity, in Milne's "When We Were Very Young"; The Moon's the North Wind's Cooky, by Lindsay, in Untermeyer's "This Singing World."

Grade II

The Cupboard, in de la Mare's "Peacock Pie"; The Table and the Chair, by Lear, in Stevenson's "Home Book of Verse for Young Folks."

Grade III

The Fairies, Fyleman, in "This Singing World"; Halfway Down, in Milne's "When We Were Very Young."

Grade IV

Moon Folly, by Gifford, in Wilkinson's "Contemporary Poetry"; An Impetuous Resolve, in Riley's "Child Rhymes."

Grade V

Christmas Morning, by Roberts, in "This Singing World"; Between Two Loves, by Daly.

Grade VI

The Highwayman, by Noyes, and Loveliest of Trees, by Housman, in "This Singing World."

Grade VII

Ballad of the Harp Weaver, in Millay's "Harp Weaver and Other Poems"; House and the Road, by Peabody, in Merrill and Sprague's "Contemporary Verse."

Grade VIII

America for Me, by van Dyke, in Merrill and Sprague's "Contemporary Verse"; Ballad of East and West, by Kipling, in "This Singing World."

Katherine Kenehan, of the Denver public schools, writes:

Inclosed is a list of poems by modern authors all of which have been enjoyed by some group of children. It is not possible to place them in any particular grade, even the indication given is almost a guess. However, we submit the list hoping it may stimulate the choice and presentation of poetry along lines calculated to insure its enjoyment in school and its becoming a source of permanent pleasure later.

It is intended that these poems be read for the most part by the teacher, who should prepare sufficiently beforehand to read with understanding and appreciation in an agreeable if not a musical tone. The value of the singing and playing of games should not be overlooked as an aid in presenting poetry.

Peacock Pie, by de la Mare—grades 4, 5, 6.

Barter, by Teasdale.

The Pasture, by Frost, in Untermeyer's "This Singing World"—grades 1, 2, 3.

The Runaway, by Frost, in "This Singing World"—grades 1, 2, 3.

Stopping by the Woods on a Snowy Evening, by Frost, in "This Singing World"—grades 1, 2, 3, 4, 5.

Tuft of Flowers, by Frost, in "This Singing World"—grades 1, 2, 3, 4, 5.

Limited, in Sandburg's "Chicago Poems"—grades 7, 8.

Silver Horn, by Conklin—grades 1, 2, 3, 4, 5, 6.

Interior, by Colum, in "This Singing World"—grades 5, 6, 7, 8.

Trees, by Kilmer, in Merrill and Sprague's "Contemporary Verse"—grades 4, 5, 6, 7, 8.

Sea Shell, by Lowell, in "This Singing World"—grades 5, 6, 7, 8.

Dolphins in Blue Water, by Lowell, in "This Singing World"—grades 5, 6, 7, 8.

The Broncho That Would Not Be Broken, by Lindsay, in Wilkinson's "Contemporary Poetry"—grades 4, 5, 6, 7, 8.

Brown's Descent, by Frost, in Wilkinson's "Contemporary Poetry"—grades 4, 5, 6, 7, 8.

The Songs of Conn the Fool—Moon Folly, by Gifford, in Wilkinson's "Contemporary Poetry"—grades 4, 5, 6, 7, 8.

Road-song of the Bandar-log, in Kipling's "Jungle Book"—grades 3, 4, 5, 6, 7, 8.

The Santa Fé Trail—A Humoresque, by Lindsay, in Merrill and Sprague's "Contemporary Verse"—grades 3, 4, 5, 6, 7, 8.

When We Were Very Young, by Milne—grades 1, 2, 3.

The Moon's the North Wind's Cooky, by Lindsay, in "This Singing World"—grades 1, 2, 3, 4, 5, 6, 7, 8.

The Sun Says His Prayers, by Lindsay—grades 1, 2, 3, 4, 5, 6, 7, 8.

The Potatoes' Dance, by Lindsay, in "Thompson's Silver Pennies"—grades 1, 2, 3, 4, 5.

The Christmas Tree—by Butts, in Wiggins and Smith's "Posy Ring"—grades 1, 2, 3, 4, 5.

Santa Claus, in "Posy Ring"—grades 1, 2, 3, 4.

Wander-Thirst, by Gould, in "This Singing World."

The Buccaneer, by Gould.

The Ballad of East and West, by Kipling, in "This Singing World."

Frances R. Dearborn and Jasmine Britton of the Los Angeles schools selected the following list of poems—one for each grade. Their procedure for selection is of interest.

A first selection of many poems for each grade was made by a committee composed of librarians and teachers. These selections were then tried out in several of the Los Angeles schools to see which *one poem* the children liked best. For instance, in Grade V, the choice of *Lord of Tartary* was made in preference to *Silver, The Service,* and *The Song of the Little Shepherd*. In Grade IV, *America for Me* won out over *Velvets* and *Alas, Alack,* the latter a humorous selection.

The reason why Rose Fyleman is given a place in both Grades I and II is because other poets were tried in these grades but the children consistently voted for Miss Fyleman's poems.

Grade I—The Fairy Tailor, in Fyleman's *The Fairy Flute.*
Grade II—A Fairy Went A-Marketing, in Fyleman's *Fairies and Chimneys.*
Grade III—In the Fashion, in Milne's *When We Were Very Young.*
Grade IV—America for Me, by van Dyke, in Thompson's *Silver Pennies.*
Grade V—Tartary, by de la Mare, in Wilkinson's *Contemporary Poetry.*
Grade VI—A Song of Sherwood, by Noyes, in Thompson's *Silver Pennies.*
Grade VII—Opportunity, by Sill, in Untermeyer's *"This Singing World."*
Grade VIII—Prayer of the Navajo Indians to the Mountain Spirit.

There is a growing feeling among experts who are studying children's tastes and their learning ability that children's preferences should be given large weight in the selection of items to be included in memory lists.

The following selections[1] which have not found their way into most school memory lists suggest the wealth of possibilities for memory material in more recent literature.

Grade I

Hoppity

A. A. MILNE

Christopher Robin goes
Hoppity, hoppity,
Hoppity, hoppity, hop.
Whenever I tell him
Politely to stop it, he
Says he can't possibly stop.
If he stopped hopping, he couldn't go anywhere,
Poor little Christopher
Couldn't go anywhere . . .
That's why he always goes
Hoppity, hoppity,
Hoppity,
Hoppity,
Hop.

Grade II

The Table and the Chair

EDWARD LEAR

Said the Table to the Chair,
"You can hardly be aware
How I suffer from the heat
And from chilblains on my feet.
If we took a little walk,
We might have a little talk;
Pray let us take the air."
Said the Table to the Chair.

Said the Chair unto the Table,
"Now, you know we are not able:
How foolishly you talk,
When you know we cannot walk!"
Said the Table with a sigh,
"It can do no harm to try.
I've as many legs as you:
Why can't we walk on two?"

So they both went slowly down,
And walked about the town
With a cheerful bumpy sound
As they toddled round and round;
And everybody cried,
As they hastened to their side,
"See! the Table and the Chair
Have come out to take the air!"

But in going down an alley
To a castle in a valley,
They completely lost their way,
And wandered all the day;
Till, to see them safely back,
They paid a Ducky-quack,
And a Beetle, and a Mouse,
Who took them to their house.

Then they whispered to each other,
"O delightful little brother,
What a lovely walk we've taken!
Let us dine on beans and bacon!"
So the Ducky and the leetle
Browny-Mousy and the Beetle
Dined, and danced upon their heads
Till they toddled to their beds.

Grade III

The Fairies

ROSE FYLEMAN

There are fairies at the bottom of our garden!
  It's not so very, very far away;
You pass the gardener's shed and you just keep straight ahead—
  I do so hope they've really come to stay.
There's a little wood, with moss in it and beetles,
  And a little stream that quietly runs through;
You wouldn't think they'd dare to come merry-making there—
    Well, they do.

There are fairies at the bottom of our garden!
  They often have a dance on summer nights;
The butterflies and bees make a lovely little breeze,
  And the rabbits stand about and hold the lights.
Did you know that they could sit upon the moonbeams
  And pick a little star to make a fan,
And dance away up there in the middle of the air?
    Well, they can.

There are fairies at the bottom of our garden!
  You cannot think how beautiful they are:
They all stand up and sing when the Fairy Queen and King
  Come gently floating down upon their car.
The King is very proud and very handsome;
  The Queen—now can you guess who that could be
(She's a little girl all day, but at night she steals away)?
    Well—it's Me!

Grade IV

An Impetuous Resolve

JAMES WHITCOMB RILEY

When little Dickie Swope's a man,
  He's go' to be a Sailor;
An' little Hamey Tincher, he's
  A-go' to be a Tailor:
Bud Mitchell, he's a-go' to be
  A stylish Carriage-Maker;
An' when I grow a grea'-big man,
  I'm go' to be a Baker!
An' Dick'll buy his sailor-suit
O' Hame; and Hame'll take it
An' buy as fine a double-rigg
  As ever Bud can make it;
An' nen all three'll drive roun' fer me
  An' we'll drive off togevver,
A-slinging pie-crust 'long the road
  Ferever an' ferever!

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[1] The books from which these poems come are copyrighted. Acknowledgments are due E. P. Dutton & Company, publishers of "When We Were Very Young," copyright, 1924; Harcourt, Brace & Company, publishers of "This Singing World," copyright, 1923; Henry Holt & Company, publishers of "Home Book of Verse," copyright, 1922; Bobbs, Merrill Company, publishers of "Child Rhymes," copyright, 1920; Little, Brown & Company, publishers of "Contemporary Verse," copyright, 1925; Macmillan Company, publishers of "Silver Pennies," copyright, 1925.

Grade V

Wander-thirst

GERALD GOULD

Beyond the East the sunrise, beyond the West the sea,
And East and West the wander-thirst that will not let me be;
It works in me like madness, dear, to bid me say good-bye;
For the seas call and the stars call, and oh! the call of the sky.

I know not where the white road runs, nor what the blue hills are,
But a man can have the Sun for a friend, and for his guide a star;
And there's no end of voyaging when once the voice is heard,
For the river calls and the road calls, and oh! the call of a bird!

Yonder the long horizon lies, and there by night and day
The old ships draw to home again, the young ships sail away;
And come I may, but go I must, and, if men ask you why,
You may put the blame on the stars and the sun and the white road and the sky!

Grade VI

Trees

JOYCE KILMER

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast;

A tree that looks at God all day
And lifts her leafy arms to pray;

A tree that may in summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

Grade VII

Opportunity

EDWARD ROWLAND SILL

This I beheld, or dreamed it in a dream:—
There spread a cloud of dust along a plain;
And underneath the cloud, or in it, raged
A furious battle, and men yelled, and swords
Shocked upon swords and shields. A prince's banner
Wavered, then staggered backward, hemmed by foes.
A craven hung above the battle's edge,
And thought, "Had I a sword of keener steel—
That blue blade that the king's son bears,—but this
Blunt thing—!" he snapt and flung it from his hand,
And lowering crept away and left the field.
Then came the king's son, wounded, sore bestead,
And weaponless, and saw the broken sword,
Hilt-buried in the dry and trodden sand,
And ran and snatched it, and with battle-shout
Lifted afresh he hewed his enemy down,
And saved a great cause that heroic day.

Grade VIII

America for Me

HENRY VAN DYKE

'Tis fine to see the Old World, and travel up and down
Among the famous palaces and cities of renown,
To admire crumbly castles and the statues of the kings—
But now I think I've had enough of antiquated things.

So it's home again, and home again, America for me!
My heart is turning home again, and there I long to be,
In the land of youth and freedom beyond the ocean bars,
Where the air is full of sunlight and the flag is full of stars.

Oh, London is a man's town, there's power in the air;
And Paris is a woman's town, with flowers in her hair;
And it's sweet to dream in Venice, and it's great to study Rome,
But when it comes to living, there is no place like home.

I know that Europe's wonderful, yet something seems to lack:
The Past is too much with her, and the people looking back.
But the glory of the Present is to make the Future free—
We love our land for what she is and what she is to be.

Oh, it's home again, and home again, America for me!
I want a ship that's westward bound to plough the rolling sea,
To the blessed Land of Room Enough beyond the ocean bars,
Where the air is full of sunlight and the flag is full of stars.

Selections from the Bible—To meet the need of those who have asked for memory selections chosen from the Bible, the following list from the course of study used in the schools of Lincoln, Nebraska, will be useful:

Grade III—23d Psalm; Grade IV—100th Psalm; Grade V—121st Psalm; Grade VI—19th Psalm; Grade VII—Matthew 5:3-11 (The Beatitudes); Grade VIII—1st Psalm; Grade IX—First Corinthians 13th Chapter.

CHAPTER XI

MUSIC

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Introduction

MUSIC EXPLAINED *in terms of feeling psychology*—Our modern mode of thought is scientific. In psychology, science applies itself to life. Insofar as its method remains scientific it will observe life but fail to comprehend it. Life itself—the core of it—is a feeling, willing, moving force. It can be understood only through the "divining sympathy" of a like feeling, willing, moving force.

Educational thought is prevailingly scientific. Its field is, therefore, insofar as its method remains scientific, that of cognitive or thinking psychology. But art must be explained, if at all, in terms of feeling psychology; and those terms must moreover be derived from experience and a vast volume of testimony of experience, and not from the field of detached, scientific analysis alone. The effect of the "primrose by the river's brim" upon Wordsworth is not explained by scientific analysis of the primrose or a psycho-physiological study of Wordsworth, nor is it to be denied because it is not discovered by means of such studies.

The psychology of feeling, including under that term not only specific emotional reactions to life, but primarily those broad subjective states that distinguish one personality from another, and that constitute the affective atmosphere within which individual thought and action go forward, has not been satisfactorily explored. As a consequence the immense fields of aesthetic and moral action as connected with feeling, have been but slightly discussed by educators; and general educational thought, when turned upon music and art, has achieved little because it sought to explain and direct operations in a realm of feeling on a basis of intellectual meaning.

But by developing the intellect to the exclusion of and at the expense of the feelings, we may be guilty of building the intellectual structure on sand, rather than on rock. If the feelings are basic and contributory to intellectual activity, we are not justified in ignoring them. Music is one ubject taught in the schools that is based on the fact that the affective life f the individual deserves as much attention as the intellectual.

The characteristic effect of aesthetic experience is to lift this general one of feeling rather than stimulate specific emotions. This may be stated n another way by saying that we do not enjoy a composition by Beethoven ecause it is sad or joyful, or *makes us* sad or joyful, but because it is eautiful and exalts our general state of feeling.

The general affective state, as seen from this position, may be described s the particular complex of emotional forces of an individual in a state f balance. "Emotions," of the specific kind, represent increased emotional nergy attained by stimulation that overturns, for a time, this state of alance in favor of driving energies of a particular kind. By the same erms, aesthetic feeling may be described as increased emotional energy vithout loss of balance; and this is a condition of heightened power, expanded and quickened sense of life and general well-being, happily devoid of those less well balanced and perhaps even violent impulses that may characterize specific emotions.

The causes of the qualities found to characterize aesthetic feeling are not eyond discovery, and in order to clarify the problem let us rightly separate rom aesthetic feeling all feeling that is merely suggested or associated: . g., the story interest in a picture or in a song, or the sound of cathedral himes, the suggestion of rushing wind, etc., in an orchestral composition. These give "emotions of life" and while they may be present together with esthetic feeling, they are distinct from it.

What does music contribute to our emotional life?—Music possesses and resents to the recipient something that is quite different from and extrinsic to anything that is possessed or presented by a life-situation itself; r even such representation of a life situation as is already found in a poem hat may be set to music. Insofar as we respond musically to this musical ddress, the stream of tone, in all its rhythms, dynamic shadings, melodic isings and fallings, tone-colors, harmonies, etc., is itself the object of our mpressions and the awakener of our feelings. It is with the fortunes of the ones, and with their inevitable progress that we are concerned. We ride on heir current, lulled by their quietness, stirred by their turbulence, charmed y their beauty, and filled with joy over their perfect and inevitable rightess. In all this we find not only favorable stimulation of feeling but somehing that is of profound significance; complete satisfaction of feeling. Every feeling stirred is balanced, every problem presented is solved. Such esult is inevitable. It is predicated in the fact that the feeling arises from nd follows the lines of the art-product itself; and these represent impulse nd energy in balanced, perfect, satisfying unity. If the feeling forsakes s art model and takes its rise out of associated or entirely extraneous interests, as when one's attention wanders at a concert, or becomes primarily ngrossed with "life-situations"—that represent only associated interests— he sense of a balanced and satisfying emotional experience is lost, and roubled and unrewarded feelings, with the imperfections of earth upon hem, take its place.

The heightened, but balanced state of feeling described, we have termed aesthetic feeling. It is a fact of greatest importance that the emotion described is experienced by practically all persons, especially children.

"The values of life come not primarily from what one knows or what one does but from how he feels about what he knows and what he does. . . . His tastes, appreciations, ideals, attitudes, and mental perspectives are consequently a much better index of his true character and personality than what he knows, what he has or what he can do. . . . Knowledge and skill help him to meet the situations of life to which they apply, but it is in his developed feeling that determines the kinds of life situations he will seek to meet." (Dr. John W. Withers, Music Supervisors' National Conference, Journal of Proceedings, 1916.)

If we recognize that a general state of feeling is always present, is a determining force toward ultimate ends, and may be profoundly improved by certain aesthetic or religious experiences, additional light is thrown upon discussions of music as a leisure time activity or as a social utility. Through misinterpretation these discussions have been understood by some people to mean that the effects of music were confined to the brief hours of actual musical experience. But what was awakened in the individual does not die when the vibrations cease. Any influence profound enough to touch the basic affective state of an individual is a lasting influence, even if not one of great magnitude. Something of the state of feeling aroused is recalled and lived again and again, even if the auditory imagery can not be, as it often is, recalled. That state of feeling, insofar as it rests upon experience of the beautiful, is, as James Russell Lowell affirms, "an eternal rebuke of the base and worldly." So understood, music, like all art and religion, so far as they are effective at all, is an influence that permeates and affects life regeneratively in its entirety.

General and Specific Aims of Music Instruction

The general or humanistic aim of music instruction is to contribute to the character of the individual and society an additional measure of the idealism, the joyous preoccupation with unselfish interests, the elevation and purification of feeling, and the psychic health dependent upon abundant but orderly expression of emotion, that come from appreciative contact with, and the endeavor to create or recreate, the beautiful in music.

The specific or musical aim is to develop appreciation of the beauty that is in music, as a condition of attaining the general ends described.

Music Appreciation and Its Development Defined

What is music appreciation? How can it be developed?—Appreciation of music is understood to be a pleasurable response to musical beauty. Such response may be intuitive or it may be highly conscious and complex.

Intelligent appreciation consists in the pleasurable response, plus conscious recognition of the factors that caused it. To develop intelligent ppreciation the right basis of musical experience must first be provided and hen attention must be directed to the significant factors in this experience. nstruction that would develop appreciation must therefore occupy itself with these two endeavors, and particularly with the latter.

There are but two elements of beauty in music: beauty of tone and beauty of tonal design or tonal procedure.

There is emotional quality in music but it is distinct from beauty. The tonal design, by reason of its rhythm, tone quality, melodic outline or harmonies, may be characteristically energetic, calm, grave, triumphant, exciting; but the quality of the general mood does not determine the degree of beauty the music possesses. Further, whether words or pictures that may be attached to music lean toward sadness or gaiety, or have one kind of interest or another, are matters that even less define its beauty.

The experience of beauty, like the experience of the perfection that is in mathematics, in itself produces an emotion of a kind quite different from the characteristic types of worldly emotion described, though the latter may and do constantly coexist with it. It is a pleasurable state of exaltation of feeling, having no connection with joys and sorrows arising out of worldly ncidents. Because it is centered only on the perfect and satisfying unity of its object, it is regenerative, cleansing us of the passions of earth.[1]

It should be noted that any particular emotional reaction aimed for, such as patriotic feeling, is lowered or weakened if the higher emotion of beauty is absent. That is to say, a poor, unshapely or ugly patriotic tune, played or sung in ugly tones, does not arouse the highest patriotic feeling. The latter will be energized and ennobled in proportion to the æsthetic emotion present.

Subordinate Aims and Special Features of Music Instruction

These are some of the subordinate aims and special features of music nstruction:

1. Instruction in staff-notation
2. Instruction in singing
3. Use in connection with physical well-being
4. Use as a socializing influence
5. Use as a recreational activity
6. Use in ethical and moral training
7. Use to intensify emotion
8. Music as vocational training
9. Use as an aid in general development, through rhythm

1. *Instruction in staff-notation should never be mistaken for the central aim in teaching music*—To sing or play at sight, when considered as a echnical skill and evaluated in relation to social needs or life activities, does not appear to be important and instructional effort toward that end, pplied to all children, would not appear to be justified. This conclusion

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[1] See E. D. Puffer, *The Psychology of Beauty*. Houghton, Mifflin, Boston, 1905.
Clive Bell, *Art*. Stokes, New York, 1914.

is reached by Bobbitt and Snedden, and is suggested by Charters. All of these writers give appreciation foremost place as an aim of music instruction. They have not, however, traced any connection between familiarity with staff-notation and the possibility of a rich and vital appreciation.

The connection may probably best be seen by drawing a parallel with English. If a pupil's experience with English were restricted to selections that could be repeated to him until he could remember and carry them away, his appreciation as well as his entire development in connection with the subject, would be dwarfed by the meagreness of such experience. So rote songs presented by a teacher, or music presented by a phonograph, will form an insufficient basis for a musical development of any great value. A necessary factor of growth, too, is "prolonging, repeating and intensifying one's experiences." In the case of rote songs this process would suffer only in extent, not in strength; but in the case of selections heard on the phonograph, where there is only auditory memory, unaided by visual, tactual, or muscular associations and images, recalls or actual repetitions do not gather additional strength.

Given acquaintance with staff-notation, even without real ability in independent sight-reading, repetition of experience is facilitated and the experience is enriched. When there is actual sight-reading ability, a world of music to be independently arrived at (in which is included the indispensable field of harmony and part-singing, impossible of exploration by rote) is thrown open to the learner.

Experience demonstrates that a fair degree of capability in sight-singing is acquired rather easily by the majority of children. The application of advanced standards of technical proficiency for all pupils would, however, be not only unwise but impracticable.

For a time the child sings by rote exclusively, which makes him dependent upon his teacher for the songs he learns. There are three processes involved in learning a rote song: (1) *Auditory stimulation*—The child is in a sense a musical parasite, depending upon his teacher for his musical education. The teacher sings the new song to the child a number of times before asking the child to attempt it alone. In this stage of the child's musical education, the child must hear the song sung by others before learning begins. (2) *Auditory imagery*—By hearing the song repeated a number of times the child acquires an auditory image of the verbal and tonal content of the song to be reproduced. This step in the learning process is often ignored by music teachers. If the child is unable to hear the new song subjectively, it is unlikely that he will give it a satisfactory performance. Good sound perception and imagery aid the next step in the rote singing process. (3) *Voco-motor response.* As stated above, the ability to reproduce accurately the verbal and tonal content of a rote song depends largely upon the quality of the antecedent stages. A faithful reproduction of a rote song requires also control of the musculature of the vocal apparatus. With sufficient opportunity for singing, the child acquires a high degree of vocal control, with but little conscious effort.

The last two stages of rote and note singing are absolutely identical. The two types of singing differ only in their initial stages. (1) *Visual stimulation*—In note singing the eye rather than the ear is addressed first. The child is expected to translate sight symbols into sounds, but before doing this, he must be able to hear the sounds mentally (subjectively) as a concomitant of visual stimulation. This will be discussed briefly later. (2) *Auditory imagery*—This step is similar to the second step above. The child must acquire a tonal image of the song as it appears on the printed page before he can sing it satisfactorily. (3) *Voco-motor response*—No difficulty will be encountered in singing the song from the printed page if the preceding stages result in a vivid image and if the motor responses are adequate.

Only one new psychological problem is presented by note singing, and that is the process which results in the conversion of sight stimulation into auditory stimulation. If a note is always accompanied by a specific sound, the child will supply in his imagination sound that should accompany the note, when the sound is physically absent, without having the ear externally stimulated. This is simply the psychology of the conditioned reflex. Surprising as the interaction of the sense of sight and sound is, and the fact that the excitation of one may be aroused by the stimulation of the other, the conditioned reflex belongs to our everyday experiences. The dinner bell makes the mouth water; the sight of food does the same. Weird as it may seem, the child in the note singing act, acquires the ability to "hear" with his eyes, and "see" with his ears.

Subjectively, note reading is the process of translating sight symbols into auditory imagery, while objectively, note reading is the process of translating sight symbols into sounds.

As music, subjectively considered, does not exist at all except in the form of auditory imagery, the sweep of appreciation can be no larger than the field of such imagery. On a first hearing of music one is limited to appreciation of sensory beauty (beauty of tone), and to a very restricted appreciation of the beautiful dependencies and relationships that exist. This restriction is due to inability to retain at one time, as aural imagery, any considerable portion of the composition. The difficulty is the same as that of appreciating architecture, were the architectural form merely sketched by a moving point, in luminous lines which faded as fast as they were drawn. Successive hearings complete the aural imagery, and hence provide the condition for full appreciation. However, the power to translate visual imagery (musical notation) into aural imagery hastens the process, and provides for a vast and infinite extension of the store of aural imagery.

If the value of note-reading is conceded, these questions remain: (1) What proportion of children can acquire such power? (2) What degree of such power can they acquire? (3) What amount of instructional effort will be necessary to their acquisition of the accepted degree of power? (4) Is such instructional effort proportionately too great, or is it within reason?

To these questions the following answers may be made: (1) Almost all normal pupils can acquire some degree of power in note-reading. (2) The degree of power is sufficient to provide pupils, through their independent ability as a group, and at each stage of their development, with a vast amount of music of a type that is desirable and that is appropriate to their needs and interests at the time. Again the parallel with English may be drawn. The average child is taught to read with sufficient proficiency to enable him to supply himself at all stages with literature that is contributory to his proper growth. Sets of graded books of music, published for schools, similar to those provided for reading, reflect the objective standards generally approved and sought by public school music teachers as a result of their schoolroom experience.

These desirable standards can be reached in fair measure without imposing rigorous uniform standards of technical proficiency upon all pupils, or distorting the music course from its appreciational goal, by an inordinate amount of severe technical instruction to the displacement of inspirational singing and hearing. (3) The amount of instructional effort, for satisfactory results, measured in time-units, need be only the amount that is now usually allotted: namely, 75 to 125 minutes per week, according to the grade and local conditions. (4) This amount appears to be not excessive and within reason, in the minds of most leading school authorities, as judged by their practice and deliberate statements. They find the school spirit organized and the school atmosphere beneficially stimulated and lightened by such provision for music.

Music is extraordinarily attractive, and never more so than in the schoolroom, where the affective impulses and expression of the child are likely to be unduly suppressed through preoccupation with those seemingly more practical studies that deal with the rational intellect. Motivation to note-reading should spring out of the desire to produce enjoyable music, and not out of fear of the teacher's displeasure or of retardation in the grades. Any present attainment anywhere is almost certainly due to such correct motivation, and not to the fears mentioned. To say that such status should be maintained is therefore not to belittle the importance of note-reading.

Difficulty, confusion and conflict of opinion arise only when note-reading is regarded (whether avowedly or not does not matter) as an end rather than a means, and when fixed standards of proficiency are set up for all pupils. By the very terms of such a system, appreciation becomes a subordinate, or at best a postponed aim, not directly and inseparably connected with all musical study and practice. To relieve the recognized aridity, or to preserve a balance, separate and formal lessons in music appreciation will then probably be scheduled: and these are likely to fail because they are conceived as in opposition or contrast to the regular music instruction, or because they give arid knowledge instead of appreciation.

Note-reading, to be helpful toward appreciation, must be applied always to specific pieces that are desirable to the child, and not be taught as an abstract system. Note-reading must also be permitted to ally itself, in early stages, with imitation and with musical feeling or intuition for the drift of the music, and not be constrained to become a wholly independent and completely rationalized effort.

In short, the pedagogical thought that applies to reading, and that led to abandonment of the old alphabet method, applies as well to note-reading as a feature of the music course.

2. *Instruction in singing is merely supplying the child with a tool by which we open the door to music*—The attitude toward instruction in singing should be the same as the attitude of the educator toward the tool-subjects. The voices of the children must be conserved and guided but not developed as if for solo performance. To attempt the latter would be to endeavor to do more than is necessary for the attainment of beautiful musical results, and would be imposing on all persons a type of special technical training appropriate to the few.

It should be said, however, that within the modest limits required, practically all children can sing. Long experience on the part of many teachers with thousands of pupils has proven that tone-deaf persons and persons to whom music is an irritant, are found in numbers so small as to be negligible. Any other difficulty is due to the pupil being vocally awkward rather than aurally defective, or to the presence of an inferiority complex with relation to singing, engendered possibly by a teacher or parent. In any case the obstacles may be easily and quickly removed, especially with young children, except in very rare instances.

3. *Contribution to physical well-being is a by-product—not the central aim in music instruction*—In singing and in connection with folk-games and folk-dances and physical training exercises, music directly aids physical well-being. This valuable by-product should not divert attention from the central aim. The two can coexist. All that is necessary is to keep the music beautiful as music.

4. *The socializing influence of music is an important subordinate aim in music instruction*—Music in public schools is almost all arranged in parts and is cooperative. The singing of even a unison song by a group, with rhythmic solidarity, correct intonation, good tone, and beautiful expression, is an adventure in socialized project-work, on the side of organized effort alone. In addition to this objective socialization, there is a subjective one. If the songs are properly selected and properly conducted, each will express a mood, an affective state, within which the sympathies or feelings of the pupils are unified. Such a state as we are describing, like that stirred by a poem or a story, is the "touch of Nature" that "makes the whole world kin." So to bring people together on high levels of feeling is a valuable achievement. Such effect is particularly noticeable in connection with adolescent chorus and orchestra work. Moreover, a group possessing individually very ordinary musical capability can collectively produce music of very great artistic beauty. The St. Olaf Choir, Dr. T. Archibald Davison's Harvard Men's Chorus, Montani's Palestrina Choir

in Philadelphia, and countless groups of children and adolescents in public schools scattered over the country, give abundant testimony to this fact. It means that in music we have a peculiarly social and popular art.

5. *Use of music as a recreational activity should not be confused with the chief aim of music instruction—which is appreciation of beauty*—Music has been used possibly more than any other art as a cart-horse for the conveyance of extrinsic values. These collateral benefits should not be disowned or rejected. They are apparent to common sense, and to abandon them would be a distinct loss. Danger arises only when they are thoughtlessly accepted as representing the central aim. The supreme value of music to mankind is then lost; and stripped of the power that wiser treatment would give to it, music is likely to suffer progressive impoverishment and become less effective even for its lower utility. All that is necessary is to treat music conscientiously as music.

6. *Use of music in ethical and moral training also subordinate to the central aim*—Because music in public school practice is largely vocal and associated with words, specific situations of moral, ethical and even intellectual interest may through it be presented to the pupils; e. g., in the kindergarten, the subjects of light, air, and family relations may be introduced; in the grades, patriotism, love of home, etc. The opportunity is one of incalculable value, but it is also a fruitful source of error. The error becomes apparent when we reflect upon such extreme practices as singing the list of state capitals or a collection of moral maxims.

Had music always been all instrumental, volumes of æsthetic controversy and mountains of misguided educational theory and practice would be swept away.

A full discussion is impossible. The reader is referred to such books as Ambros, *The Boundaries of Music and Poetry;* Hanslick, *The Beautiful in Music;* Clive Bell, *Art;* E. D. Puffer, *The Psychology of Beauty* (Chapter V especially); D. G. Mason, *From Song to Symphony.*

Authoritative opinion, as expressed in words and *as revealed in the preferences of good musicians everywhere,* may be summarized as follows:

A song is not good (or bad) because it is "about" something. It must have musical beauty and strength to be good.

The particular type of beauty in music is one that is determined by the character of the text, and is harmonious with it; but mere agreement with the mood or dramatic motive is not a guarantee of, or substitute for, beauty.

Since the decisive factor in a song is musical beauty, song material should be selected primarily on the basis of musical worth, and only after that is assured, on the basis of the quality, character and appropriateness of text. At that point qualities of text assume as great importance as they have ever been thought to have.

In singing songs, musical beauty is similarly the first requirement, and elocutionary, dramatic, or narrative effect should have play only within the limits thus set. This is quite in accord with the belief and practice of the greatest concert artists.

Dramatic declamation, such as Alberich's shouts or the cries of the Walküre has, it is true, a place in art; but in public schools it may more appropriately be developed in the expression lesson than in the music lesson. The child being in a sensory stage, is quite prepared to accept music as beauty of tone and beauty of tonal weavings; and this is the specifically musical outlook. Beauty of tone, good vocal practice, and the development of a correct idea of the nature and purposes of musical art may be lost if music is treated primarily as moral, ethical or intellectual instruction or as drama. Reactions of these types should be regarded as local reactions occurring in the field of a broader and higher affective state.

The ideals represented by the most beautiful singing of boy choirs or the choral organizations mentioned above are quite appropriate.

7. *Use of music to intensify emotion, a minor use as compared with the central purpose—the appreciation of beauty*—The discussion of No. 6, preceding, applies. Lifting of the general affective state, through beauty, is more important and salutary than stimulating specific emotions attached to personal and material interests. Both effects take place when a song is sung with regard primarily for musical effect.

8. *Music as vocational training*—The extent of the vocational interest that music holds is not sufficiently well known. Surveys in two cities, in which music at the time of the surveys was not believed by those in charge to be functioning as richly as it should, disclosed that from three percent to seven percent of all pupils in their high schools had a strong vocational interest.[1] A survey in Rochester, N. Y., revealed a much stronger vocational interest. According to U. S. occupational statistics, music in 1910, in point of numbers engaged, ranked third among professions. In 1920, on the same authority, music ranked fifth, trained nurses and technical engineers having exceeded it in numbers, owing to the exigencies of the world war. The figures do not include the vast numbers who are semi-professionals—choir singers, part-time instrumentalists, college students paying their way by part-time professional work, etc., but only "musicians and teachers of music."[2]

9. *Use of music as an aid in general development, through rhythm*—Whenever practice has implied that this was accepted as a major objective, it has quite rightly been connected with kindergartens and primary grades.

The value of rhythm practice at these stages and for the purposes specified is not questioned; but a clearer understanding of the relation of these practices to the instruction in music may be needed.

Rhythm is a fundamental, but is not the *distinctive* feature of music.

The distinctive feature of music, marking it off from all that is not music, is *tone.* Tone without rhythm, as a long-sustained chord on the organ, is music; but rhythm without tone is not music.

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[1] See Bulletin, 1921, Bureau of Education, Department of Interior, *Survey of the Schools of Wilmington, Delaware.* Part II; also Bulletin, 1919, No. 50, Part 5, Bureau of Education, Department of Interior, *Public Schools of Memphis.*

[2] See Bulletin, 1923, No. 20, Bureau of Education, *Recent Advances in Instruction in Music.*

Rhythm practice, as ordinarily done, rightly uses the larger muscles. It performs a valuable work for the organism in so doing, but does not give specific musical training.

The rhythmic training is an aid to the musical training because, and insofar as, the rhythmic power gained, transfers to the musical field.

The belief that a child lacks the rhythmic power that is needed for singing, or as a prerequisite to beginning his musical training, and that this power is best cultivated by rhythmic practice dissociated from specific musical training (which would employ tone and enlist his most sensitive aural attention) would appear to be exaggerated. When kindergarten or primary grade children sing a song together in good rhythm, as they can quite easily do at an early stage of their school life, they are using muscles of the faces, lips, throat and abdomen rhythmically. This is a more advanced act than is the use of the large muscles in rhythmic responses to comparatively simple music—though the latter practice is extremely beneficial to organic development, and helpful in bringing about a stronger realization of rhythm as found in music. If stressed too greatly in connection with music, however, vigorous motor response is developed disproportionately to fine aural perception, and genuine musical progress (which is at one with the development of aural perception) is delayed. Music, therefore, need not be approached through rhythm. (See also the Discussion under "Instrumental Music" and "The Rhythmic or Toy Orchestra.")

Instrumental Music—Why it Should Have a Place in the Public School Curriculum

Instrumental music makes a contribution distinct from vocal—The study and practice of instrumental music in our public schools, as a part of the curricular or extra-curricular program, has attained during the last fifteen years the proportions and power of a tidal wave. So marked a phenomenon merits some inquiry. To what interest or need does this phase of work minister, and what, if any, are its values?

Vocal and instrumental music belong to two different but related art-types. The difference is not great but it is distinct.

Vocal music employs words; in that fact is the gist of the whole matter. Words connect with specific human happenings and their emotional reactions. Instrumental music, not employing words, must make itself attractive while speaking of other things than human experience. One joins with the real; the other with the ideal. Persons differing psychologically, or the same person at different times, will have different preferences between the two. But because song, in rhythm, melody and harmony, *possesses factors that are disconnected with incident,* it also belongs to an idealistic world.

For some a musical instrument offers greater opportunity for self-expression than does the human voice—There are physiological and psychological differences resulting from and contributing to performance. To voice one's specific emotional reactions in song is a direct and natural action; to express through an artificial mechanism, and by means of a technique of the fingers, the rarer emotions that lie deep within our subjective core, is less direct and simple. President Eliot gave evidence of rare discernment when he said that the finest example of a perfect coordination of all our powers, physical, mental and spiritual, was to be found in a man playing the organ. His choice of the organ, rather than the violin, flute or trumpet, is significant.

Native physiological powers, reflected psychologically, may determine choice. One may have little voice or voice of inferior quality, and little tendency to sing; but he may be intensely musical and mechanistic and take delight in playing the French horn.

The age-long æsthetic controversy as to the comparative artistic values of the two media need not be reopened here. Instrumental music is unquestionably the more specifically musical art, but that is not to say that it is a greater art. What must be said is that our children, when they grow up, cannot be expected to attend organ recitals and chamber music and symphony concerts, and have that appreciation of music which is demanded on all sides, if through singing only, and often under the direction of a teacher who thinks the meaning or "content" of a song is all in the words, they come to regard all music, to use Dr. Will Grant Chambers' term, as "song-story." To ignore instrumental music in education is to ignore at least half the musical field.

Training in instrumental music develops appreciation of a sort which singing cannot do—Ability to play a simple part in simple ensemble music is as general as a corresponding degree of ability to sing; and this modest ability is quite sufficient, in group effort, for the production of lovely musical effects, and the development of sympathy for and appreciation of the sort of musical art that might never be disclosed through a repertory of songs alone.

Free classes in instrumental music offer opportunity to discover latent talent—The discovery and development of talent that might otherwise atrophy is another result of supporting instrumental music in the schools. Many musicians would have attracted no attention, or perhaps only unfavorable attention, during their school days, had their singing been taken as the sole index of their musical powers. This discovery of musical capability other than vocal cannot be left to parents alone. Ignorance, indifference and economic inability all act as powerful deterrents in such case, as they would in relation to every subject in the school curriculum treated similarly.

Public school instruction in instrumental music removes economic barriers—The economic factor operates deterrently more often than any other. Indeed, the extraordinary popularity of instruction in instrumental music in the public schools is largely due to the fact that it offers to the child something that his parents wish him to have but cannot, at least without great difficulty, provide. Almost every child, more especially a boy, wishes at some time to play some musical instrument. At the worst, parents regard this interest as comparatively harmless; at best they are keenly sympathetic. Nevertheless, they would not, if left to themselves, always provide private instruction. The enterprise is speculative and costly. The child, too, shrinks from an undertaking made serious and strenuous by its high cost and the proportionately great responsibility in terms of industry and rapid progress expected of him. With tuition costs reduced to nothing or to a negligible amount, an instrument possibly provided the pupil by the school, instruction compressed within school hours or given conveniently at the school in short after-school periods, and not to him alone but to a group of congenial spirits of which he is a member, the undertaking assumes to the child the aspect of a joyful project. If he makes but little progress, reveals but little talent, there is no great loss. He has at least gained a valuable conception of what music is and has found himself in relation to it. If he discloses interest and talent, a valuable discovery at low cost has been made; and the speculative element having then been removed, his parents are quite ready to finance his further study under a private teacher.

In Pittsburgh, Pennsylvania, 1500 children are enrolled in public school violin classes—Conversations with the parents, teachers and children concerned have given the basis for the foregoing sketch. A similar situation exists in numerous other cities. Four years ago in Washington Junior High School, Rochester, New York, 33 1/3 percent of all pupils were taking, or had recently taken, private music lessons. In the same city at that time, 25 percent of all pupils enrolled in all schools, from 5th to 12th grades inclusive, were taking, or had previously been taking, private music lessons. Should an educational interest of this strength receive no consideration in the public's educational system?

The Rhythmic or "Toy" Orchestra—Its Educational Value

The rhythmic orchestra provides all the values of other forms of rhythmic action. It introduces in addition more varied and complex rhythms than are likely to be employed in other forms of rhythmic response. The responses of different children, or of the same child at different places in the same piece, differ in periodicity and in dynamic strength.

The responses do not become reflex, as in the case of uniform and persistently repetitive movements, but acquire a controlled and purposive character.

To the variety and richness of rhythmic response is added a musical intention that directs it. Rightly managed the practice becomes for the children an adventure, a project in musical taste. It is comparable directly to the exercise of taste in form and color which children put forth when they construct a miniature park, with buildings, flowers, trees, lakes, walks, drives, tastefully arranged.

The plan suggested, which is appropriate in the kindergarten and in the lower grades, is for the teacher to play on the piano for the children, with all musical effect and until it is appreciatively known, some good composition that is attractive to children and adapted to the effects added by the toy instruments, such as Gade's *Christmas Tree* march, Schumann's *The Wild Horseman,* or the Beethoven *Minuet in G*. The children then "orchestrate" the music, guided by the same kind of feeling for relevancy and proper musical effect that guides the composer in his mature and extended works. Abundant experiment has shown that practically no child is so obtuse that he wishes to beat the cymbals vigorously when the music sinks to quiet and gentle mood, or feels that the silvery tinkle of the triangle adequately expresses his feelings when the music is loud and tempestuous. Loud, vigorous music stimulates; soft, gentle music, like a mother's lullaby, quiets. There is probably a fruitful field for psychological study and observation here which has not been adequately investigated. For a slight but interesting discussion, with relation to infants, see *Child Psychology,* Tracy.

The instruments used should be such as give variety of effect. It is desirable to increase the total to include all of the children in a group, if possible. The weaker-toned instruments, such as triangles and bell-trees, may be increased in number to almost any extent. Additions to the numbers of louder instruments must be made more cautiously.

Few or none of the instruments ordinarily employed are tonal, that is, have definite pitch. Tonal instruments, such as toy trumpets, and as we ascend in the grades, real trumpets, violins, etc., should be added. At that time toy symphonies, which have effective parts written for these instruments, such as Haydn's and others, could well constitute a part of the repertory.[1]

Class Instruction in Instrumental Music Technique

Little need be added to the foregoing general discussion of the aims and values of instrumental music. The lessons, in the grades, should be given during school hours by a special teacher or, in platoon schools in which the teacher of music is proficient in some branch of specialized music technique and can find the time, preferably by the regular teacher.

A small fee or none should be charged; certainly none if lessons are given by the regular teacher. Instruction books are sometimes provided by the pupils, sometimes at public school expense. The musical instruments are usually provided by the pupils.

The number in a class may range from six, or even fewer, to fifteen or even more, depending upon the power of the teacher, the possibility of homogeneous groupings and, if a special teacher is employed who depends upon fees from pupils for his compensation, the possibility of adequate financial returns.

Orchestra and Band Ensemble—Its Contribution

The following values may be justly claimed for the orchestra and band ensemble:

(a) It develops an understanding, both for those in the ensemble and those who hear, of music as an independent tonal art. No one who lacks such understanding can be said really to appreciate or understand music.

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[1] For more detailed discussion, see the Kindergarten and First Grade magazine for June, 1923, January, 1924, and February, 1924.

(b) The production of each piece of music represents the completion of a fine type of project-work.

(c) It is a highly socialized endeavor along idealistic lines.

(d) It provides a field for the exercise of team-work that is characterized by an exceptional degree of individual effort combined with an unusually delicate and perfect coordination with the group. Its disciplinary effect is correspondingly great.

(e) It holds marked vocational possibilities.

(f) It is a potent agency for articulating the school and the community.

(g) It manifestly wins a high degree of approval from parents, and must be reckoned, therefore, as satisfying a very general demand.

Creative Music: Improvisation and Notation of Melodies

Wagner, whose thought and erudition are not to be despised, in his large prose work *Opera and Drama,* describes music (in its origin as "open" or vowel sounds) as the expression of subjective feelings; and articulate speech (consisting of vowels with consonantal prefixes and suffixes attached) as the expression by which we designate things in the objective world. His whole theory of music drama is built on this idea. In short, music is the language of subjective feeling, articulate speech the language of objectively focused thought.

In the development of the infant, expression of feeling by means of cries, croonings, inarticulate sounds of many shades, precedes the articulate speech which denotes knowledge and thought. The language of thought is thereafter infinitely cultivated; the language of feeling, as intuitively expressed, is left to die.

Music is the language of subjective feeling—In humming and whistling, in musical calls, in the restricted chanting of verse (which the child persists in making a vehicle for the expression of feeling instead of thought) the subjective core lives on. Given encouragement it leaps forth eagerly. In kindergartens in Buffalo, where there is a wise supervisor of kindergarten music, in some kindergartens in New York City, and in a number of kindergartens and elementary schoolrooms up to the seventh grade in Pittsburgh, children are pouring forth an incredible number of little songs. Some are individually improvised, some are cooperatively done; some are finished quickly, some are of slower growth; some are shapely, some are crude. All, however, have the charm of sincere, unsophisticated expression; and all have value because they represent an absorbing effort toward a perfect expression of a beautiful state of feeling.

If the language of thought were never used except to express some other person's thought, learned by rote, it would be an impoverished thing. The language of feeling should have equal reality and flexibility for original expression.

Children can improvise simple melodies and they take joy in doing it—The response of the children is eager and fairly general. All can and do take part in providing the words that may be used. Equal power on the part of all is not expected or necessary; but equal interest should and can be maintained. All participate jubilantly in singing a song by one or many of their number, when completed.

In the higher elementary grades, knowledge of notation is greatly advanced by the endeavor, always cooperative, to write the songs correctly in a key suited to the voice.

The following quotation from *School Topics,* the official magazine of the public schools of Cleveland, Ohio, is pertinent. It is taken from a column bearing the caption, "Suggestions, Submitted for Discussion by the School of Education": "How about letting the children of the intermediate grades think and produce their own melodies involving the problems which they are studying? Individual expression and keen competition result in intelligent understanding of the drouth-threatened chromatic or the weak-choked quarter-note beat."

Music Appreciation—The Aim of All Music Instruction

Is there need for a special course in music appreciation?—The aim of all instruction in music is appreciation. Any music instruction whatever that does not lead definitely toward appreciation is a failure. That our long hours of instruction are not expected to develop appreciation, and that educators generally have come to believe that development of music appreciation is possible only by means of a special formal course consisting largely of listening, is a serious commentary upon our work and upon our own judgment of it.

One reason is that beauty has not been sought, or sought sufficiently, in the daily music lesson. Subordinate aims, thoughtlessly assumed to be central, have deflected the course.

Another reason, closely allied with the first, is that we have apparently assumed that when individuals or groups *make* music they cease to hear. The truth is that the individual responds most completely, in the sense of absorbing and appropriating the music fully, when he *sees* it (in notation), *feels* it (as physical action) and *hears* in connection with his seeing and feeling. It must be admitted, nevertheless, that the amount of teaching that does not thus recognize that the pupil is to listen sensitively and to hear is lamentable.

Much formal instruction in *music appreciation* has failed to develop *appreciation of music.* It has failed because appreciation is *feeling for music* and it has sought instead to develop knowledge; and not knowledge of music, but knowledge about composers, titles, opera stories, orchestral instruments, etc. Such knowledge has a place, but the place is after an experience in feeling has taken place. It follows then, as satisfaction of inquiries that are unawakened until motivated by the pleasurable experience in feeling.

Such tangential instruction has met with favor because the information it imparted was deemed such as a well-bred person should possess. It was *comme il faut.* James Russell Lowell discerned such a motive for pursuing art. The quotation is used by Neuhaus in his book *The Appreciation of Art:*

> Till America has learned to love art, not as an amusement, not as a mere ornament of her cities, not as a superstition of what is *comme il faut* for a great nation, but for humanizing and ennobling energy, for its power of making men better by arousing in them a perception of their own instinct for what is beautiful, and therefore sacred and religious and an eternal rebuke of the base and worldly, she will not have succeeded in that high sense which alone makes a nation out of a people, and raises it from a dead name to a living power.

That some true appreciation results from the type of effort described may be admitted. The music may linger in the memories of children and find a place in their affection through its own strength. In that case, the composer, and not the teacher whose voice and didactic effort drew attention away from the music, must be given the credit.

The teacher's part in developing appreciation for good music—To develop appreciation in another is a delicate task. It cannot be done by forceful methods. A communion of feeling must be established.

Appreciation of beauty of tone is almost universal with children. Intelligent appreciation of tonal design can be added, if one who knows and loves that beauty makes suitable comment at the right time.

Children should have a musical experience "richer than that afforded by their own singing." The statement does not imply that all appreciation is to be gained outside of their singing.[1] It does imply, however, that there is need for extending the field of music to be appreciated to types of music other than the short vocal pieces done by the children.

If, in extending the range of material to be appreciated, a change is made to music of a new and quite different character, there is danger that the child will not look, in the new music, for the same interests, values and enjoyments that he has found, or should have been led to find, in the old. He will be uncertain as to what interests, values and enjoyments he should look for. If the teacher further, in connection with the new, introduces a new set of values, of emotional, picturesque, programmatic, biographical, and historical range, the child's point of view is likely to be permanently distorted and his birthright to enjoyment of what is, after all, a naturally enjoyable thing, is taken from him. Thereafter appreciation of music will be thought by him to depend upon some mysterious erudition, instead of depending upon simple enjoyment of beauty as contrasted with ugliness, and a growing discernment of what the factors are that make for beauty.

The supplementary material which the child is to hear should, therefore, grow as naturally as possible out of the material with which he is familiar, and be explicable in the same terms. Instruction should be by way of sympathetic and timely comment upon the balances, graces, relevancies, coherence and varied interest of the music, rather than take the form of imparting instruction upon extraneous facts of history, biography, orchestration, etc. These latter will and should follow in good time, if the first result is conclusively gained. Such natural extension of the range of the child's experience and interest is quite valuable. It is comparable to the supplementary readings done by the teacher in connection with English; and the comment should be similar to that which would be made by a teacher of English who really appreciated good literature.

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[1] See: "A Standard Course in Music," Bulletin No. 1, Music Supervisors National Conference. Publisher, George Oscar Bowen, Tulsa, Oklahoma.

The Music Curriculum in Elementary Schools

General features, as derived from the foregoing discussion—If it be accepted as a fact that the essential function of music and the one that holds the greatest power for good is to *awaken the feeling of the beautiful,* rather than to stimulate emotions "within the accepted rubric-joy, desire, triumph, etc." or to serve the other various purposes mentioned above, the curriculum will be affected in the following particulars:

1. Those who compose songs for children will seek first to make their songs beautiful and, secondarily only, to invest them with specific emotional content.

2. Songs will be selected first for their beauty and only secondarily for their circumstantial interest (which, we again emphasize, is purely the interest of the words).

3. Rote songs will be presented as *music* rather than as narrative or declamation.

From long experience it may be safely said that little children have a great capacity for musical interest and a great capacity (of quite another quality) for story interest, but little capacity for conceiving a blend of the two. They are likely to oscillate between musical and story interest, or to lose sight of one in absorption in the other. As we are discussing musical experience and the music lesson, it is appropriate that we stress the fact that a song belongs to the musical, rather than to the literary or the dramatic field.

As the child is in a sensory stage he is quite ready to accept song as music. To ensure that he do so, it is necessary only that the song to be learned first be sung—or even *played*—in its entirety, as beautifully as possible. Later the children imitate, a phrase at a time. Words should be separately said only in case they are not correctly understood and repeated.

4. Beauty of tone will from the first be constantly sought. "Jiggy," boisterous songs, with rapid rhythms defeat the child's efforts at pure, tonal vocalization, and should be avoided in the first stages of instruction.

5. Long sustained calls, shaded gradually to a pianissimo of pure intonation, and songs that find their effect in beautiful tone and steady intonation, will be generously used with young beginners.

6. By these processes the ear will be sensitively trained to demand *trueness of pitch and beautiful musical quality,* as well as correct, but not obtrusively accentuated rhythm.

Appreciation of the first element of musical beauty, beauty of tone, which makes a sensory appeal only, may thus be developed at an early age.

Though this is only sensory it is an essential æsthetic factor. The most advanced artist never disregards it.

7. Appreciation of the beauty and strength and satisfactory quality in musical design will be developed, even during the rote-song stage, as well as in all stages following:

(a) By constant experience with music that has such qualities. This is strictly analogous to the appreciation of good English that comes from hearing nothing but good English.

(b) By employing expression, phrasing, that is true to the lines of the musical design rather than to narrative or dramatic implications of the text, that is, that delineate the musical structure in its balanced beauty.

To illustrate: "Length means strength"; ascent in pitch should be accompanied by increase in power; and repetitions should be given new or growing interest. The practice of great artists and conductors and the teaching of coaches and artists all tend to emphasize the correctness of the position stated. The taste of the average teacher is sufficient to ensure correct values in the ordinary simple rote song, once he conceives schoolroom music as a field in which musical taste has any place whatever.

(c) By the preparation that results from using beautiful tone. Appreciation of tone is not appreciation of tonal design, but is inseparably linked with it, because beauty of one kind must be answered by beauty of another. Lovely tone is wasted on a common, empty musical design, and is seldom accorded it. On the other hand, a beautiful musical thought inevitably calls forth beauty of tone: and beauty of tone creates a background sympathetic to the reception of pure and beautiful musical thought.

8. Vocal practice will seek level tone, (unwavering as to pitch) true intonation and beauty of tone. Proper vocal technic will be secured by attention to and attainment of these. No proper vocal technic, no ear-training and no appreciation of music, as this has been herein defined, can be successfully developed until this condition is fulfilled.

9. The child's musical education will be enriched by providing opportunity for him to hear and become intelligently appreciative of music other than that provided by his own singing or playing. The supplementary material will be closely articulated with the music produced by his own efforts. The media for the presentation of it will be talking-machines, player-pianos, and performers of music. This appreciation will be clearly understood to be only an extension to other music of that appreciative attitude which it is the duty of the teacher first to have created in the pupil in connection with the daily music program.

We should observe that pupils seek music, and their parents have them take lessons, because there is native fondness or appreciation for it; and they stop because appreciation suffers progressive atrophy or dissolution under the forms of teaching encountered.

10. Intelligent or conscious appreciation of the beauty that is in musical design will be further developed—and it is the prime pedagogical duty of the teacher so to develop it—by means of other processes that are always possible and are usually present in the music course, but which have no

been fully and consciously utilized by the teacher toward appreciational ends. To illustrate:

a. In connection with individual and group singing of rote songs attention will be fixed upon *musical ideas* instead of single tones, by dealing always with motives and phrases as the smallest units of structure or deign, and each phrase or motive will be sung musically *as a unit,* and not as a procession of separate tones.

b. The resemblances between units—the repetitions, recurrences and later sequences—make the strength, simplicity, coherence or even humorous monotony of the song. Children are early aware of the resemblances between part and part. A little appreciative comment by the teacher from time to time should direct the attention of the children to the existence and the *musical effect* of these factors.

c. Singing at sight will similarly be developed in connection with motives and phrases (musical idea-units and thought-units), and will never be permitted to degenerate into note-spelling from which all musical idea, thought and feeling are absent. The parallel with "alphabet" and other methods of reading is too close to be disregarded.

d. The relations between the units of musical design, between part and part of a melody, are yet more evident when seen in note-patterns on the staff. The type of instruction indicated in "b" will, therefore, be continued and will become more effective when staff-notation is before the pupils.

e. The cultivation of quick grasp of the musical idea, the musical thought, the musical structure, the musical intention or drift, will be understood by the teacher to be at least as necessary to the development of sight-singing proficiency as is rational note-reckoning; and to be indispensable if appreciational progress is not lost whenever sight-singing begins. This does not mean that sight-singing should be taught less, but that it should be taught better; and that the object of its attention should be more complex—a note-group that has musical meaning instead of a single note. Again note the parallel with methods in reading, and the theory underlying them.

f. In connection with more elaborate vocal music and every phase of instrumental instruction and practice, and also in connection with formal music appreciation or "listening" lessons, the type of appreciational instruction described will be repeated and extended. All music will seek beautiful tone, and keen appreciation of that factor of beauty will be cultivated. All music will be performed as *music,* with endeavor to delineate justly and lovingly the tonal balances, tendencies, and effects. In "toy" orchestras and regular orchestras and bands, the different qualities of tone of the various instruments and the characteristic effects possible to each will be recognized. In vocal and instrumental compositions in which there are many "voices" or parts, harmonic procedures and effects will receive appreciative comment, and the interest, the unity and variety, that are attained by running the same theme through different "voices," will be appreciatively noted. In all music—that given in the listening lessons as well as that performed—loving recognition of the values, strengths and beauties of musical structure will be sought. Repetition with changes of harmony, as in *"Drink to Me Only With Thine Eyes,"* repetitions with graceful melodic changes, as in Elgar's *"Salut D'Amour,"* rising sequences as giving subsiding effect, the "return to the beginning" with its concomitant necessity for giving the beginning section new weight on its return, the cyclical principle as represented in the larger forms—these and many other possibilities will present themselves to the alert and truly musical music teacher. The effect is to transform what might be otherwise only a vague and mistrusted musical impression on the pupil's part, into joyous recognition, knowledge and faith.

11. Musical education will be oriented and further enriched by encouraging participation, at every step of the way, in some appropriate form

of instrumental music; in kindergartens and primary grades, by the rhythmic orchestra; in intermediate years, by class instruction in specialized instrumental technique, violin ensembles and orchestras. Participation on the part of large numbers will be encouraged.

Statement of the objectives appropriate to each grade, and detailed statement of the content of the music curriculum in elementary grades and junior high school, are yet to be made. The committee endorses the report of the National Research Council of Music Education of the Music Supervisors' National Conference on *Music in Junior High Schools,* and recommends the course of study therein approved, with the addition of one branch, namely, melodies and chords taught in the eighth grade of the public schools of Pittsburgh, Pennsylvania, and with the further addition of several syllabi used in connection with the course in the Pittsburgh schools.[1]

Ear Education Versus Eye Education

Some of our senses are in the process of atrophy. The most conspicuous ones in this category are the sense of taste and smell. We have but a vestige of taste and smell imagery remaining. In spite of the fact that at one time these senses were the all important ones for sustaining life, they now occupy a very insignificant position in the life of man.

Of the two so-called higher senses, only one seems to be recognized by educators and that is sight. Sound, the other higher sense, receives but little educational attention. Yet, by over educating the visual sense are not educators guilty of under educating the auditory sense?

According to anatomists, the ear is the best protected sense organ, since it is shielded by the hardest bone in the body. Furthermore it is claimed that the ears are directly connected with the thalami, the seat of the emotions. The ears are the "short distance notifiers"; the last sentinel, excepting touch, that informs the individual of danger. It must not be forgotten that auditory nerve impulse travels faster than visual nerve impulse; and lastly, that the ears function both in darkness and daylight while the eyes are almost useless in darkness. There can be no doubt that the ear, equipped as it is, was meant for heavy duty.

The few educational experiments attempting to measure the influence of ear perception on the learning process, reveal that the ear is a valuable asset. There can be no question as to the desirability of ear education and there can be no advantage gained by ignoring it. At present only music is concerned primarily with this sense, while all other school subjects are addressed to the eye.

It should be said to the credit of the music educator that he is endeavoring to establish a relationship between ear and eye education that approximates the natural potentialities of the two senses. In other words, he has adapted his subject to meet the sensory capacities of the child.

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[1] *Music in Junior High Schools,* Bulletin No. 4, 1925, may be obtained at the price of ten cents per copy by application to George Oscar Bowen, editor, Tulsa, Oklahoma. The Pittsburgh Course of Study in Junior High Schools, with syllabi, may be obtained by application to Will Earhart, Director of Music, 725 Fulton Bldg., Pittsburgh, Pa.

CHAPTER XII

MODERN FOREIGN LANGUAGES

William B. Snow, Chairman, Assistant Superintendent of Schools, Boston, Massachusetts.

Maro S. Brooks, Superintendent of Public Schools, Medford, Massachusetts.

Jacob Greenberg, Director of Foreign Languages in Junior and Junior-Senior High Schools, New York City.

Charles H. Handschin, Professor of German, Miami University, Oxford, Ohio.

William R. Price, State Supervisor of Modern Foreign Languages, Albany, New York.

E. B. de Sauzé, Director of Foreign Languages, Cleveland Public Schools, Cleveland, Ohio.

George W. H. Shield, Acting Supervisor of Modern Languages, Los Angeles City Schools, Los Angeles, California.

THE POSITION of the Committee on Modern Foreign Languages is in some respects different from that of other committees working under the Commission on the Curriculum. Subjects taught in the first six grades have for some time been the object of intensive study by the Commission, and have been treated at considerable length in the Third Yearbook of the Department of Superintendence. In American public schools modern foreign languages are not usually begun below the seventh grade, and they are now considered for the first time by the Commission.

The present movement for curriculum revision differs from previous efforts of a similar nature in its insistence upon basing all conclusions not on opinions, no matter how generally they may be held, but on facts ascertained by extended and carefully controlled investigations. Such investigations demand a wide field, definite standards of achievement, the cooperation of a very large number of workers, and considerable technical skill in giving tests and interpreting results. At the present time the American Council on Education, with the financial aid of the Carnegie Corporation and the hearty cooperation of the Bureau of Education at Washington, is carrying out a modern language study of the most thorough and exhaustive kind, with ample resources and three full-time investigators, under the guidance of a Committee of Direction and Control which includes a score of the best known teachers in America and represents both the colleges and the secondary schools. It is clear that your committee has no equipment for research comparable with that of this modern language study, and that it would be foolish to attempt to duplicate the arduous and expensive labors of the study or to weary busy schoolmen by a second series of questionnaires covering the same field. It is equally evident that any report made before the results of the study are available would have to be regarded as incomplete and subject to considerable revision in the light of the information that the study is expected to furnish. For this year, therefore, the committee on modern foreign languages restricts itself to a brief report of progress, in which it calls attention to several previous reports with which everyone interested in modern language work should be familiar, and to certain conclusions reached in these reports which are undoubtedly accepted by a very large number of our best teachers of modern foreign languages. There is reason to believe that the results of the study will in general confirm these conclusions.

He who desires to know something about the beginning of modern foreign language work in America can not do better than to read Bulletin 1913, No. 3 of the United States Bureau of Education, *The Teaching of Modern Languages in the United States*, by Charles H. Handschin. Not only does this give an outline of the progress of modern language study in the United States, but it has also a useful bibliography and some worthwhile comment on texts and methods.

The first report of a general nature to which we would call attention is that of the Committee on Secondary School Studies, often referred to as the Report of the Committee of Ten, published in 1893 as No. 205 of the U. S. Bureau of Education. This Committee, appointed at the meeting of the National Education Association, July 9, 1892, organized nine conferences on the most prominent subjects taught in secondary schools, the Conference on Modern Languages consisting of Charles H. Grandgent, William T. Peck, Joseph L. Armstrong, T. B. Bronson, A. N. van Daell, Charles Harris, Sylvester Primer, John J. Schobinger, I. H. B. Spiers, and Walter D. Toy. From the report submitted for the conference by Charles H. Grandgent, Chairman, we quote the following passages, which we regard as no less worthy of attention and application today than when they were published thirty-two years ago:

"The objects to be attained are: (a) a good pronounciation; (b) ability to understand very easy German or French when it is spoken; (c) ability to read, without painful effort, simple stories in the foreign language; (d) ability to construct short German or French sentences, applying the elementary rules of grammar." (Today we should speak of these as "immediate objectives.")

"Not a moment should be lost in contending with difficulties that have no necessary connection with the language." "As long as English versions are made, teachers should insist upon idiomatic English." "The chief object of our modern language courses is, as has been said, the ability to read French and German; but to do this the student must know more than the definitions of the words he sees; he must be able to imagine the phrases coming from the lips of a Frenchman or a German—he must know how they sound to a native hearer, and how they put themselves together in the mind of a native speaker." "Something that approaches this knowledge can be acquired by practice in pronunciation, conversation, and composition." "The foreign language should be used as much as possible in the classroom." "In teaching foreign sounds great care must be taken lest the scholar confirm himself in bad habits; uncorrected pronouncing is as bad as none. As often as may be, the beginners should speak the sentences immediately after the teacher; a very little careful practice of this kind will do more good than any amount of original pronunciation by the pupil." "Grammatical abstractions should not be forced upon the pupil too early." "Difficulties can best be overcome by taking them one at a time. In studying language the three enemies that the novice must encounter are pronunciation and spelling, vocabulary, and grammar; singly they can be mastered; united they are likely to prove too strong."

The conference advised beginning the foreign language earlier than was the practice at that time. "Wherever thoroughly competent teachers can be secured, we are of the opinion that there should be introduced into the grammar schools an elective course in German or French." "Living languages seem to us better adapted (than Latin) to grammar school work, both on account of the greater ease with which they can be taught and learned, and because of their closer relation to the interests and ideas of today." "It is essential that pupils should study at least one language long enough to reach some degree of maturity in it." "We regard as entirely inexpedient the introduction of two foreign languages in the same year." "The study of a new language should present a sufficient number of weekly exercises to enlist and hold the full interest of the pupils." "In the case of young children, especially, it is found that more is accomplished by short but frequent lessons than by longer ones at greater intervals."

It is hoped that these quotations may lead the reader to procure and study the entire report, for all persons who teach or who direct the teaching of modern foreign languages should be familiar with the beacon lights along the way we have traveled.

Six years after the publication of the Report of the Committee of Ten, the National Education Association Departments of Secondary and Higher Education published a report from its Committee on College Entrance Requirements. This included a report from the Committee of Twelve appointed by the Modern Language Association of America at the request of the National Education Association. This committee had begun its work in 1897, and for two years had endeavored, with the means at its disposal, to do what the Modern Language Study, with far greater resources, is now undertaking. The value of the report may be inferred from the fact that it is still the basic authority on the teaching of modern foreign languages; although the later work of individual authors has supplemented it with valuable contributions in accordance with the educational progress of the last quarter-century. The committee consisted of Calvin Thomas, *Chairman*, E. H. Babbitt, B. L. Bowen, H. C. G. Brandt, W. H. Carruth, S. W. Cutting, A. M. Elliott, C. H. Grandgent, G. A. Hench, H. A. Rennert, W. B. Snow, and B. W. Wells. Different sections of the report treat of the value of the modern languages in secondary schools, of methods of teaching, the preparation of teachers, the teaching of modern languages in grades below the high school, standards of achievement, and the details of courses recommended. The modern language teacher can read portions of this report a great many times and spend long hours digesting and assimilating its contents before he will have exhausted its possibilities. We make no quotations, for we assume that everyone with any interest at all in the teaching of modern languages has read it *in toto,* and that every modern language teacher has it on his bookshelf.

In 1912 the National Education Association appointed two sub-committees to report upon the reorganization of various high school subjects, and the following year these and other committees were included in a Commission on the Reorganization of Secondary Education. A preliminary report of the chairman of the committee on modern languages was printed in Bulletin, 1913, No. 41 of the U. S. Bureau of Education.

Successive sections of the "Statement" deal with aims, method, material, details of procedure, teachers, and texts. Three chief aims of the first year, profitable alike to those who are to continue studying the foreign language and to those who will drop it soon, are phonetic accuracy, careful use of words, and interest in the foreign nation. To gain a general command of the language is the immediate aim of the second and third years; while the fourth year allows more careful attention to grammatical and rhetorical form, and may differentiate the instruction, selecting literary, commercial, or scientific reading material as the needs of particular students may require. The section on method and that on details of procedure contain many helpful suggestions concerning classroom practice; what is said about texts and material for study is of a general nature, with no mention of any particular books; and the brief remarks on the preparation of teachers treat the problem as primarily one for the college to solve.

While your committee might extend this review by giving its present opinion on various questions, we deem it wiser to say nothing further until the work of the modern language study shall have given us a considerable body of facts on which to base conclusions.

CHAPTER XIII

THE SOCIAL STUDIES

ROBINSON G. JONES, *Chairman*, Superintendent of Schools, Cleveland, Ohio.
WILLIAM L. CONNOR, Secretary, Chief of the Bureau of Educational Research, Cleveland, Ohio.
R. W. BARDWELL, Superintendent of Schools, Rock Island, Illinois.
J. LINN BARNARD, State Department of Education, Harrisburg, Pennsylvania.
J. H. BINFORD, Assistant Superintendent of Schools, Richmond, Virginia.
A. C. SENOUR, General Supervisor, East Chicago, Indiana.
A. G. YAWBERG, Superintendent of Cuyahoga County Schools, Cleveland, Ohio.

Brief Outline of Report

I. Introductory statement—knowledge of rules and forms of social structure versus understanding resulting from concrete experiences.

II. Shall the social studies be unified?—an assembling and analysis of representative opinion on this question.

III. Examples of work now in progress in revising the social studies curriculum. Courses are described and illustrated which range from those representing rearrangement and refinement of traditional content, to those built around social objectives and which largely reject the organization and content of the traditional social studies.

IV. Objectives of social studies in the elementary grades—a discussion of certain considerations based upon a review of existing objectives.

Introduction

Social Science—the science of getting along with people—is coming to be recognized as an essential part of every child's education. On our ability to get along with other people, both at work and at play, rests the very foundations of the structures essential to an advancing civilization.

These facts are generally accepted in theory. In practice, however, we have been content to stress forms and rules, cherishing the hope that children would vicariously absorb the philosophy lying back of the forms and rules. Such procedure was bound to fail. Spirit and philosophy should come first. Then rules and forms follow naturally.

Recognition of this principle is affecting far-reaching changes in the methods and materials of the social studies. Concrete experiences and illustrations must replace general formulæ if the child is to know how the great human needs are satisfied, and is to feel the need for government, morality, and that type of behavior which makes it possible for us to live as social beings.

Teaching social studies on this basis is less difficult than many have imagined. Children will follow with eager interest the fascinating stories of the development from sheer individualism to community life. Take, for example, the growth of a town or city from the lone settler's cabin built beside a stream in the wilderness. That first settler had to depend entirely on himself to satisfy his needs. Then came other settlers, a division of labor, a school for the children, a church, a singing society. But along with cooperation came differences and struggles, and the need for a legal court.

Similarly one can trace the development of organized effort for obtaining nutrition, for providing for recreation, for putting out fires, for supplying water, for maintaining order, and for providing light and heat.

The automobile has made the town and the country aware of each other. We now have two phases of life before us, one on the great outlying spaces devoted to agricultural production, and the other in the congested spaces devoted to industrial production. The conditions affecting interchange between the two groups make necessary the reconciliation of their points of view. If this is to be accomplished, each group must understand the physical conditions under which the other works and lives. Only then will the laws and the current social and business practices, under which both must live, be set up in a tolerant frame of mind.

Teach but the rules and forms of our social structure and the result may be evasion rather than observance of these rules. Teach the needs of the individual and of the community and the child becomes conscious of his part—his obligations in the community as well as his privileges. Mere knowledge is less important than inclination based on understanding.

Shall the Social Studies Course be Unified?[1]

This section of the report is a study of representative opinion. The Committee on Social Studies recognizes two distinct tendencies in the construction of social studies curricula.

First, there is the tendency to accept the traditional content of such separate subjects as geography, history, civics, and current events; and to give this material point by a better definition of objectives. A variation of this viewpoint—the "composite-subjects" tendency—accepts the conventional subject materials as the point of departure, but through better coordination and correlation presents them not as distinct, but as contributory subjects.

Second, there is the unification tendency, which rejects the traditional subject-matter as such, and substitutes activities and materials, both new and old, which fulfill certain social objectives determined upon as the criteria for selection of content.

This section presents representative opinion as it concerns these two distinct tendencies in the development of social science curricula. This opinion was collected through an inquiry sent to approximately 300 school organizations enrolled in the Cooperative Plan. This inquiry read as follows:

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[1] This section of the report was prepared by A. C. Senour, general supervisor, East Chicago, Indiana, public schools. Some revision of the original draft was necessary to meet space limitations.

Do you favor the unification of the social studies into one course of study? (Social problems, political and economic geography, history, civics, vocational information, economics, sociology, and current events.)

Indicate in which grades. Check in the appropriate column after each grade.

Grade	**For Unification**	**For conventional subject division**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Signature

Official Position

Replies were received from 204 counties, cities, state departments, and teacher training institutions. Eleven of these replies did not clearly indicate the intention of the respondent and were discarded, and forty-five arrived too late to include in the tables and graphs. These late returns were in general agreement, however, with the 148 replies used as a basis for tabulation. The 148 replies were not all filled out completely. Some indicated choices only in the elementary grades, others only in the junior high school grades. Some favored unification in some grades and conventional subject division in others. Thirty-one voted "straight tickets"—twenty-four favoring unification and seven subject division. Twenty-five replies endorsed unification for elementary and junior high grades and subject division for senior high grades.

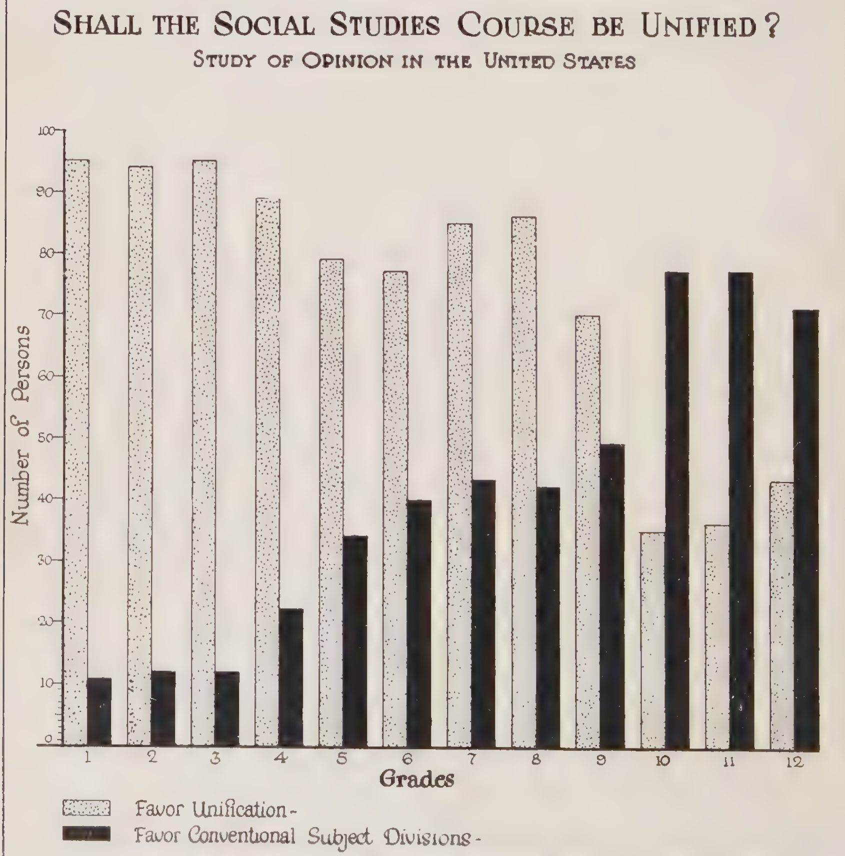
Opinion favors unification in elementary and junior high school—Chart V indicates almost universal opinion favoring unification in the three primary grades. This vote probably reflects experience since a composite course has been more or less in operation in these grades. A decrease in the strength of those favoring unification is found in each of the grades four, five, and six.

In the junior high school, itself a break with tradition, the tendency is to introduce into social science courses more problems of a social and economic nature. This tendency, well illustrated in such social science material as that prepared by Harold O. Rugg, has in all probability conditioned the vote in these grades. The tendency away from unification in the ninth grade is explained in part by the large percentage of the vote coming from schools with the four-year type of high school organization.

The vote for grades ten, eleven, and twelve clearly favors subject division. This reversal of the vote of the earlier grades may reflect the opinion that the senior high school work should be more intensive and specialized than that of the earlier grades.

Opinions expressed need qualification—A number of respondents qualified their opinions. Some superintendents of schools expressed practical

CHART V



SHALL THE SOCIAL STUDIES COURSE BE UNIFIED?

STUDY OF OPINION IN THE UNITED STATES

Read figure as follows: For the first grade 95 replies favored unification of social study subjects and 11 favored conventional subject divisions; 42 did not vote for this grade. Similarly read data for other grades (The total number of replies was 148.)

rather than fundamental objections by stating they would favor unification as rapidly as suitable unified teaching material became available and as teachers were trained to handle such material. One professor favoring unification stated, "course names as such mean little apart from specific analysis and organization." Another professor who favored unification in general stated:

> There are certain economic phases of the social studies which have nothing to do with social relations and, therefore, should be treated separately. I favor the following alignment of subjects: Social Studies—probably including a little history, citizenship, social phases of economic life, some geography; Economic Studies—probably including practical or industrial arts, much economic geography and vocational (general) studies.

A representative of a state department suggested "close coordination in grades one to eleven; unification in grade twelve." This analysis of conditions was offered by a representative of a teacher training department:

> In spite of more than twenty years of experimenting on types of unification and subject division, I find it impossible to answer your questionnaire. I do not believe there is evidence at the present time which would lead to a conviction regarding either plan. The best results have come from unification interspersed with an organization on the basis of the controlling principles underlying the various subjects. There must be at some time during the course an emphasis on subjects as such. I have no preference as to when this shall be done. Availability of satisfactory textbooks and reference materials should decide. There is as much, if not more reason, for unifying the social sciences in intermediate grades than for unifying them, as does Rugg, in the junior high school. If I had to introduce a unification plan in the public school at present, I should not do it in the intermediate grades on account of a lack of satisfactory equipment, but rather in the junior high school since there is satisfactory equipment for these grades.

A redistribution of replies on the basis of the size of city represented is made in Chart VI. Only a small number of cases are found in each group. The size of the community from which the vote came somewhat influenced the opinion. The proportion favoring unification in general becomes greater as the size of the community increases. In teacher training institutions, unification is favored in all grades, even in those of the senior high school.

TABLE 10—SHALL THE SOCIAL STUDIES BE UNIFIED?

(Tabulation based on 148 replies)

Grades	1	2	3	4	5	6	7	8	9	10	11	12
Percent of replies favoring unification	90.6	88.7	88.8	80.2	69.9	65.8	66.4	67.2	58.8	31.3	31.9	37.7

Enthusiasts for unification, however, should not interpret this vote as an unqualified endorsement of their cause. Some of the replies probably represent hasty judgment. A few decisions may have been made without full understanding of the significance of unification. Also, the returns picture opinions rather than actual conditions of operation.[1]

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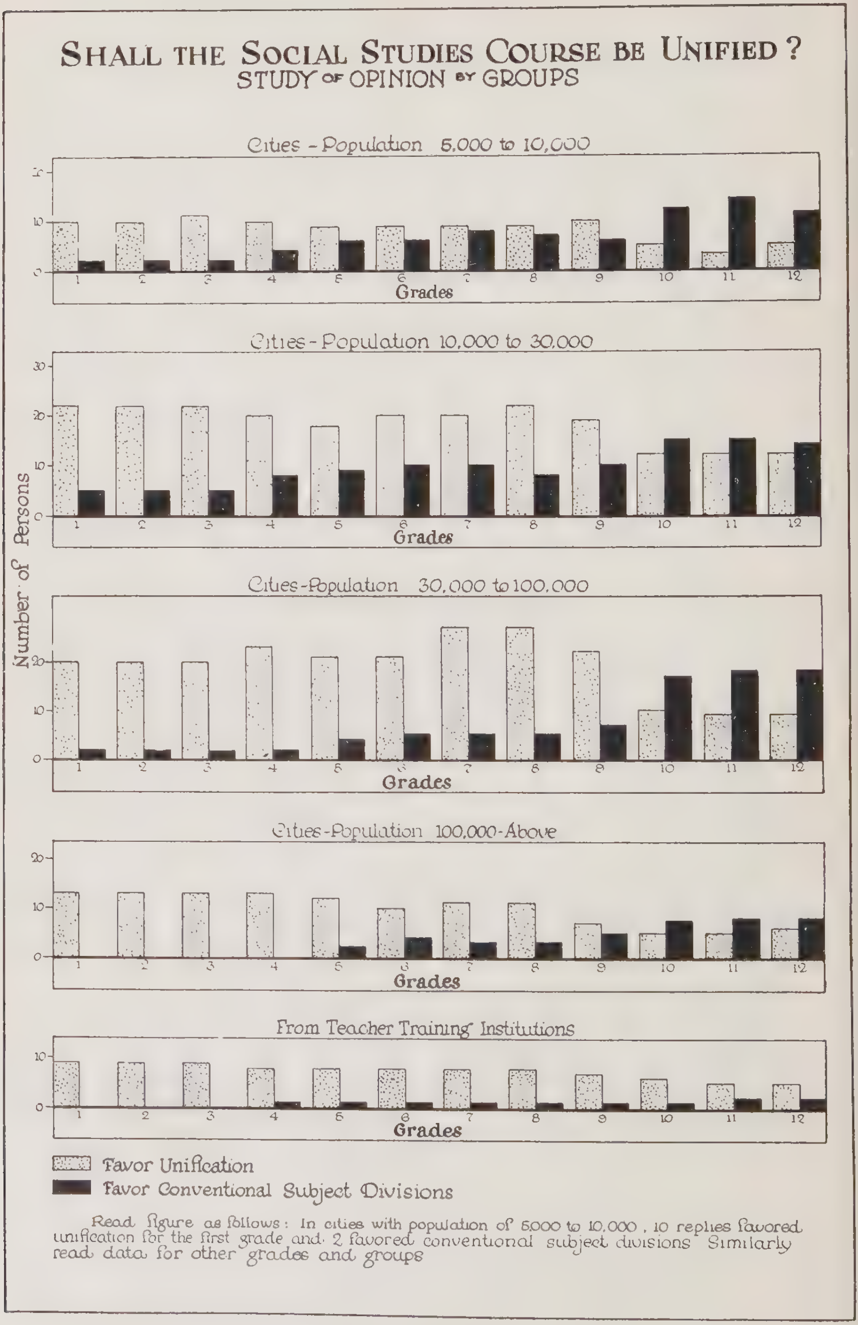
[1] In connection with this point see: "New Courses for Old." *Research Bulletin*, September and November, 1925, p. 188ff. National Education Association.

CHART VI



SHALL THE SOCIAL STUDIES COURSE BE UNIFIED?
STUDY OF OPINION BY GROUPS

Read figure as follows: In cities with population of 5,000 to 10,000, 10 replies favored unification for the first grade and 2 favored conventional subject divisions. Similarly read data for other grades and groups

Shall the social studies course be unified?—The replies to this question discussed in the previous paragraphs and summarized in Table 10 do not answer the question. They merely indicate a receptive attitude on the part of many. The returns justify the decision of the committee to make the major portion of this section illustrative and descriptive of pioneer work in the unification of the social studies.

Development of Unified Course in Social Science—Dayton, Ohio[1]

Committee organization—The work began in February, 1923. Committees on social science of from eight to ten teachers for fifth, sixth, seventh, and eighth grades were appointed by the superintendent. In addition to the chairmen of the grade committees there was a general chairman and a social science chairman. All chairmen were teachers of social science. There were several principals on each committee. All chairmen and committee members continued teaching full time.

Sustaining interest of teachers—The teachers' interest was sustained by professional reading and investigations along social science lines. Some took summer courses in the curriculum. Dissatisfaction with the old course existed because it assigned more work in geography, history and civics than could be covered in the time allotted. The idea of unifying the courses therefore appealed.

Steps in the work—The following outline suggests the work accomplished by the committees to date:

I. Job-analysis of what was to be done.

- a. Discover objectives
- b. Determine criteria for the selection of subject matter
- c. Select and place subject-matter in proper grades
- d. Determine suitable activities
- e. Discover sources of materials
- f. Determine methods of teaching to be recommended
- g. Provide for individual differences
- h. Devise means to assure the use of the course
- i. Devise means of testing the efficacy of the course
- j. Prepare model lessons

II. Survey of the literature on social science teaching, recent courses of study, new textbooks and scientific studies

III. Determination of objectives

IV. Determination of the nature of the subject matter

V. Decision as to the placement of the subject matter. What countries to be studied in each grade? What periods of the world's history? What civic activities to promote?

VI. Search for materials suitable for teaching the course: books, pictures, etc.

VII. Tentative course issued in mimeographed form

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[1] This section prepared by Jessie Frances Fair, supervisor, Dayton Public Schools. Space limitations made some revision and reduction of the original draft necessary.

VIII. Try out the course which was to be subject to continuous revision

IX. Meetings of the whole corps of teachers for discussion and criticism

X. Issuance from time to time of mimeographed sheets containing corrections, partial revisions, and supplements

XI. Making of diagnostic tests by the course of study committee

XII. Printing of summary volume of the course

XIII. Printing of fifth grade course in pamphlet form

Criteria for selection of material and activities—In the selection of materials, the following criteria were used:

A. Was it a means through which the objectives of the course could be attained?
B. Was it interesting enough to hold the attention of the children?
C. Was it in itself worthwhile?
D. Would it create a desire for more study along the same line?
E. Did it stimulate thought, train the judgment, increase the power of problem solving, intensify and enlarge experience?
F. Would the children after the completion of the course have a broad survey of the history of civilization, a knowledge of general outstanding principles of geography, a comprehension of man's relation to his environment, the interdependence of peoples, a sympathetic attitude toward other peoples?

The following criteria aided in the selection of *activities:*

A. Would the child be a better citizen because of his experience provided in the course?
B. Would he have increased power in the use of books, maps, graphs, etc.?
C. Would he have increased power of expression?
D. Would the activities suggested create desirable habits?

Development of problems—The outstanding aims of the course have to do with training for citizenship and the gaining of practice in using information. Wide use is made of the problem or project, related to childhood interests as the unit of subject-matter.

As a means of checking up the results of teaching on the informational side, tests have been developed of the type given below:

Social Science

Eighth Grade **Date**
Name .... **School** .

Directions for Test I

On the following pages are some problems. In each case the statements a, b, c, d, e, are true statements, but one of them best solves the problem. Place a check (X) before the best answer.

Here are some for practice:

Problem: Who was the greatest interpreter of the Constitution of the United States?

( ) a. Alexander Hamilton
( ) b. George Washington
( ) c. John Jay
(X) d. John Marshall
( ) e. James Madison

Problem: What was the chief issue that concerned our country from 1783 to 1829?

( ) a. How we could increase our territory.
( ) b. How we could meet successfully the immigration question.
( ) c. How we could govern ourselves successfully.
( ) d. How we could build railroads.
( ) e. How we could induce people to move west.

Problem: How did the Kansas-Nebraska Bill arouse bitter feelings?

( ) a. It extended the doctrine of "popular sovereignty" to the territories of Kansas and Nebraska.
( ) b. The Act opened up again the whole subject of slavery in the territories and again arrayed the North against the South.
( ) c. The bill provided for the creation of Kansas and Nebraska out of the Louisiana Purchase.

Directions for Test II

Here are some statements; some are true, some are false. After each are written the words, *True—False.* You are to underline the word *True,* if the statement be true, the word *False* if the statement be false.

Here are some for practice:

1. Jefferson was keenly interested in invention and exploration. *True* False
2. Washington was the first capital of the United States. True *False*
3. The United States and England made an agreement to limit armament on the Great Lakes in 1817. True False
4. The battle cry of the War of 1812 was "54—40 or Fight." True False

Future development—The course of study in social science is still in the making. It will grow from year to year as our teachers gain greater vision and power.

The task set for this year in the revision of our course in social science includes the following steps:

1. To make civics (practical citizenship) a more integral part of our course.
2. To decide just what civic *habits* we wish to *develop,* and to formulate civic activities tending to develop these *habits.*
3. To initiate activities which will strengthen relationships with children of other lands, through correspondence and exchange of exhibits.
4. To reduce still further our study of war.
5. To glorify still further the achievements of peace.

Social Studies Course of Lake County, Indiana[1]

A county cooperative plan—In 1923 a plan for the construction of the Lake County Curriculum was organized through the cooperation of four adjoining cities of this county—Whiting, Hammond, Gary, and East Chicago. A general curriculum committee was created to organize and promote the work. The general committee instituted a number of subject committees—one of which dealt with the social studies. This committee was composed of representative teachers from the cities and townships of the county. Four members of the social studies committee were delegated for leadership in the work and are relieved of instruction duties when progress of the work demands. The general committee engaged two specialists in the social studies from the University of Chicago to address the teachers of these subjects in their county association meetings and to act as counselors to the social studies committee.

How the committee went to work—The social studies committee began its work by compiling a series of objectives determined by a survey of abilities and ideals which a man should possess as a good citizen. The literature on this subject, recent courses of study, and teacher contributions were the sources.

Gradation of these objectives became the next business of the committee. Availability of material of reading difficulty appropriate to a grade, consciousness of natural interests of children of a particular grade, and present irregularities of social conduct of children of the different periods of development were the criteria for gradation.

This achievement marks the present progress of the committee. The actual development of the teaching materials, the real work of the construction of the course is ahead. The committee believes that this must be done in the classroom. To give guidance to the teachers in planning and reporting class activities, several units were organized. An illustration is given later in this section.

The committee decided that for the present it would confine its labors to grades four to six, since there was much already being accomplished elsewhere in the junior high school grades which would be beneficial later to the local committee when it came to this period. Also, in the intermediate grades there was the greatest pressure for economy of time. In these grades some of the communities already had a composite course in operation.

The following list of objectives adopted for the fourth grade illustrate the work accomplished thus far.

Lake County, Indiana, Social Studies Course
Objectives, Grade Four

1. To develop ability to read and comprehend factual material, relating to human relationships as it may be found in geographical, historical, and civic literature, in pamphlet, periodical, or book.

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[1] This section of the report was prepared by A. C. Senour, general supervisor, East Chicago, Indiana, public schools. Some revision of the original draft was necessary to meet space limitations.

2. To develop a sense of group consciousness and of human interdependence. Pupils of this period tend to excessive individualism.

3. To acquaint pupils with certain legal regulations concerning conduct with which children of this age commonly come into contact, such as traffic regulations.

4. To acquaint pupils with certain social regulations concerning conduct with which children of this age commonly come into contact, such as: keeping to the right, demeanor in public gatherings, and square dealing with one another.

5. To inculcate certain habits of thrift and conservation and an abhorrence of waste through organized school banking.

6. To assist pupils in appreciating the Being or Condition which actuates the universe as it may be revealed in nature and in men.

7. To help pupils acquire simple basic facts concerning man's physical environment and his reactions thereto.

(a) To cause children to understand the "three elements"—land, water, air—as the source of life.

(b) To cause children to sense the "three essentials" to human existence—food, clothing, shelter,—in their own environment and in strikingly different environments.

8. To inform and to bring about an appreciation of living and of conditions of life in continental areas different from the pupil's own. The population of the urban district is approximately sixty to seventy percent of foreign nativity.

A Suggested Type of Organization of a Unit—Grade Four

I. The Major Objective

To acquaint pupils with certain legal regulations concerning conduct with which they commonly come in contact, such as traffic regulation.

II. Preparation

(a) When we tune in our radio in the early evenings we hear a voice which tells us stories and sings us songs. This voice tells us that it talks daily to thousands of boys and girls, and that the owner is trying to do something for the children of the country. We learn as we listen that the owner of the voice is "Uncle Bob" speaking from the KYW station in Chicago, and that he is the founder of the club known as "The Curb is the Limit Club." He goes on to tell us that kiddies can be members by simply agreeing not to recklessly cross streets or carelessly play where wagons and automobiles are thick.

(b) The display of the "clock of death" of the *Chicago Tribune* showing automobile fatalities.

III. Pupil Discussion

(a) How are we to know when we are not to cross the street?
(b) How may we become a part of this club?
(c) There's no one on the streets to help us through the autos and wagons.

IV. Solution of the Problem

a. Pupils may make lists of rules they knowingly obey in each day's travel to and from school. (Hints from teacher will uncover rules subconsciously followed by the pupils.)

b. Each child may make a list of the dangerous crossings on his or her route; note and discuss aids for safety; presence of signs and warning pointed out.

c. Pupils may list persons and organizations responsible for such warnings; emphasize importance of patrolman; teach relation of the law to the welfare of childhood.

d. Pupils will make for their own instruction posters, signs of warning or advice, etc.

e. Dramatization will furnish means of impression; duties of a traffic policeman; picture traffic complexities, for example what course to follow upon the sudden discovery of the vehicle closer than at first suspected—to eliminate the too common "bewilderment of pedestrians."

1. Show pupils where various kinds of traffic have the right of way.
2. The meaning of the safety lane and safety isle.
3. The way to read an automatic traffic sign.
4. To learn to keep to the right in traffic. This is of immediate and practical use in the school.
5. To learn to look both ways before crossing the streets; avoid "jaywalking."

f. Have the pupils suggest ways in which they can promote greater safety for themselves, and thereby improve life for themselves, the motorist, and the policeman.

V. Supplementary Materials

Baily, R. R., *Sure Pop and the Safety Scouts* (4-6) (World Bk. Co.) Stories of accident prevention told in an interesting way, 1915.

Payne, E. G., *Education in Accident Prevention* (for the teacher) National Safety Council, 1922.

Waldo, L. M., *Safety First for Little Folks* (Scribner) (in a dream Dotty takes a trip through danger land).

State Superintendent of Public Instruction—Oregon—Course of Study for Safety Education—ample material for all grades.

Fryer, Jane. Young American Reader Series—*The Town and Civic Duty* Winston, 1918.

Chicago Chamber of Commerce—Bulletins on Safety—posters—hints for teaching of safety.

National Safety Council—Magazine, bulletins, and posters. Films and slides.

The current bulletins and posters supplied by local civic and industrial bodies are prime aids and easily obtained.

The National Society for the Study of Education is at work on a Yearbook on Safety Education which will shortly be available.

Cleveland Organization for Constructing a Geography Curriculum[1]

In Cleveland, for some time prior to 1921, attempts had been made to devise practical working plans for a general revision of the geography curriculum. In January, 1922, the Principals Club suggested that the superintendent appoint a general committee for geography curriculum making.

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[1] This section prepared by W. M. Gregory, head of the Department of Geography, Junior Teachers College, Cleveland, Ohio.

This movement inaugurated by the Principals Club was approved by the superintendent, who recognized its importance and assigned the problem of general reorganization in geography to the associate superintendent in charge of elementary schools.

Selection of a central committee—The Principals Club after consideration of the problems involved suggested the appointment of a central committee composed of the principal of the training school, two school principals and a geography specialist from the Cleveland School of Education. Such a committeee was appointed and its first work was the formulation of a comprehensive plan for constructing a curriculum in geography.

Formulation of curriculum making plans by the central committee—From a series of meetings with the general suspervisors, principals and teachers, the central committee obtained suggestions, viewpoints, and conditions relative to the teaching of geography in the Cleveland schools. Considerable time was spent by the committee in obtaining information about Cleveland problems.

A comparative study was made of the organization, methods, subject matter, and minor details of the geography courses of fifty large cities in the United States. A geography sub-committee was then selected for each elementary grade consisting of one principal and four teachers of geography in that grade. These committees were selected on the advice of supervisors, principals and teachers.

The central committee sought to stimulate and guide each grade committee through a series of meetings. Principles fundamental to the construction of an elementary curriculum in geography were gradually evolved and standards for the selection of objectives and the organization of subject-matter were discussed. The grade committees were supplied with modern textbooks, courses of study and were free to call in expert teachers and others for conference.

Each committee proceeded with the formulation of curriculum materials following the general plan as evolved in the discussions. This preliminary work was in progress for more than a year, during which time many teaching units were formed by the different grade committees. Each grade committee reported its progress constantly to the central committee, where all materials were reviewed and discussed. This resulted in a general plan of curriculum organization.

The stimulation and guidance of specialists in geography—The Principals Club devoted an entire year's program to the geography problem, and at stated intervals brought to Cleveland, without expense to the school authorities, a number of outstanding specialists in geography. In conference with supervisors and the central committee, the specialists formulated principles and ideals regarding subject-matter, methods, and organization. Through large meetings of teachers, the influence of these authorities was made widespread and general interest was aroused in the curriculum making work in progress.

General participation by teachers—More than a thousand teachers were reached through class instruction during this period. Curriculum courses were offered by the Cleveland School of Education covering all phases of geography curriculum building. In many of these courses, the preliminary findings of the central committee were discussed and used as a basis for demonstration lessons to illustrate the new subject-matter. On Saturday mornings for two years, demonstration lessons illustrating problems in the geography curriculum were arranged in the Observation School and attended by many teachers.

Prevention of educational blocs—The central committee was the clearing house for many difficulties which arose in the grade committees. It sought to keep open the way for the discussion of all differences. In some cases, the reports of the grade committees were opposed by teachers whose judgment and experience entitled them to consideration. When the committee found it impossible to settle these differences in open discussion with all parties concerned present, the issues were carefully outlined and both sides in the controversy agreed to abide by a decision of a referee selected by both sides, who passed upon the merits of the controversy and rendered a decision. This was found to be a satisfactory method of compromise. The reports from the grade committees were presented to the central committee for discussion and review. This committee considered all details of organization and prevented overlapping. The standard of all reports was kept high and revisions by conference were frequent.

Preliminary trial of the new course—When the reports of the different grade committees were in semi-final form they were mimeographed and sent to different schools for preliminary trial. Many teachers found defects, suggested adjustments and took part in the curriculum making, who otherwise would not have been stimulated to this activity. This preliminary cooperation of teachers, before the course was put in printed form, is considered one of the most valuable parts of the curriculum making program.

Editing and revising—The various grade committee reports were revised and edited by the central committee, after which all reports were submitted to the superintendent and his associates for final approval. The completed course of study was in operation in the schools in the fall term of 1925. This course was evolved in about three years. This time was none too long to allow real growth to take place among all teachers.

The printing of a course should be followed by some provision for constant revision and checking. All courses of study demand constant revision to meet changing conditions.

The Cleveland Geography Course Described and Illustrated—Grades III to VI

In formulating the curriculum in elementary geography, the various committees discussed many phases of the subject, including that of emphasizing the social elements in geography. The principles evolved to aid the selection of teaching units are given below:

General Statement of Fundamental Principles in Geography

First—Geography in the elementary school shows the relations which exist between physical conditions and natural resources, and the distribution, characteristics and activities of man.

Second—A simple understanding of the relationship of man and his natural environment is acquired through comparative studies of groups of people. Such studies show the variations of people under different environments. A comparative study of groups promotes the understanding of people in different parts of the world.

Third—The study of people discloses their interdependence as related to transportation, communication, and commerce. This is the basis essential to understanding modern world affairs.

Fourth—Geography gives to the elementary schools large social units, the study of which is interpenetrative in other school units without an unreal and artificial emphasis.

Fifth—Human relationships as dependent upon environments are emphasized. Man's reactions to his physical environment are emphasized in formulating the units of study in each grade.

Sixth—The local environment or home geography brings children by first hand contacts to the geographic factors in their own locality and to understand their influence in the everyday life of the community.

Seventh—The subject-matter for home geography is best found in activities outside of the school and in the immediate environment.

Eighth—Man's activities the world over are centered in obtaining food, clothing, shelter, fuel, and luxuries. The methods of procuring these are influenced largely by geographical factors in the home locality.

The Plan of Curriculum Organization

The following plan was applied in organizing the units of subject-matter in the Cleveland Geography Curriculum:

A. *General objectives*—The general objectives were formulated for the grade division, and it was intended that these general objectives be exclusive for that particular grade. More specific objectives were determined by teachers for the various units.

B. *Subject-matter*—The teaching units of subject-matter required by the objectives were determined by groups of teachers. Each teaching unit in the Cleveland Geography Course is organized with some slight variation from grade to grade as follows: (1) General objectives, (2) Minor objectives, (3) Approach, (4) Major problem—The form of the problem is suggested and it is understood that the pupils may formulate the problems differently; (5) Minor problems—It is more practical to have the class form minor problems and then various groups use these minor problems; (6) Summary, (7) Visual Materials, and (8) References.

C. *Pupil activities*—One of the bases for inclusion of a unit in the Cleveland elementary geography curriculum was its stimulation of pupil activity. Each unit has suggestions as to the possibilities for pupil activity. These suggestions are classified as follows:

1. *Class discussions and reports*—The preparation of reports for groups and the class involves selection of worthwhile facts and their arrangement. The weighing and consideration of information is valuable training.

2. *Solving problems*—Problems involve research and investigation. In solving problems a great variety of pupil activities has been suggested. Pupils learn by doing. The solutions of problems are presented by pupils to a group or a class. The results are judged and checked by the class, the final solution has the nature of a summary which is considered essential and should call for drill.

3. *Journeys and field trips*—Opportunities for first-hand observation, collection of materials and leadership of groups. Local field trips about the school are especially emphasized in lower grades.

4. *Handwork*—Through the various types of handwork pupils are led to express and analyze their problems. Posters, booklets, models, graphs, charts, and toys.

5. *Games*—Used to aid drill and put into action information acquired. Dissected maps, aeroplane journeys, etc.

6. *Dramatization*—From simple impromptu acting to carefully planned presentations of a large unit.

7. *Special readings*—Selections that present the most active and interesting high lights of the teaching unit. References are given to page and volume.

8. *Map exercises*—Provide for drill in location and repetition of places used. Blank wall and small desk maps are used constantly in fixing ideas of location. Blank globe and blackboard outline maps are essential.

9. *Summaries*—To provide drill upon the essential facts. To state clearly any principles discovered. To clinch the application of important facts.

D. *Standards of attainment*—The standards of attainment have been developed for the various grades according to the objectives. The standards for abilities and skills, both general and specific, are stated for the different grades. A definite knowledge of geographical terminology, some definite facts and some general principles are part of each teaching unit.

1. *General abilities and skills.*
   a. To use reference materials, to obtain necessary facts unaided by teacher.
   b. To evaluate, associate and discuss facts with members of group.
   c. To read maps, physical as well as political.
2. *Specific abilities and skills.*
   a. To locate on an outline map of the United States, the states, rivers, lakes, mountains, surrounding waters.
   b. To locate on an outline map of the world the chief trade routes from the United States to foreign countries.
3. *Some principles to be acquired through reading, map study, and discussion.*
   a. The occupations, habits and customs of people are influenced by the temperature, rainfall, altitude, etc., of the region in which they live.
   b. Trade is the exchange of commodities by producing regions.
   c. Friendly relations facilitate, unfriendly retard trade.
   d. The principal trade routes exist between regions of greatest production.
   e. Trade routes follow navigable waterways, plains and river valleys.
   f. Transportation by water is less rapid but less expensive than by rail.
   g. Harbors are determined by the coastline and the depth and the extent of water.
   h. Ports thrive where there are good harbors that have easy access to a well populated and productive hinterland.
   i. The location of cities is determined by physical features of commercial or industrial advantage, as waterfalls, mountain passes, presence of raw materials, easy means of transportation, etc.

E. *Visual materials*—The visual materials are in units corresponding with the unit of instruction. The visual unit is closely related to the subject-matter and in many cases, the teaching unit is built about the visual materials.

In the laboratory method of problem solving, it is necessary for pupils to be supplied with an abundance of visual material, so that various types of pupil activity may be stimulated. The visual materials are carefully chosen *to be used by pupils,* not exhibited. Trying to learn without some basis of sense perception leads to hazy ideas. The map, graph, lantern slide, picture, motion picture, and exhibits of raw material are stimulative to pupils' thinking.

F. *Use of texts and references*—In the solution of problems no single text is used but many books are called into use, i. e., atlas, dictionary, yearbook, geographical reader, reports, textbook, etc. The references are frequently selected for pupils while additional readings are suggested to the teacher. The references are grouped, i. e., for research, for pupil reading, and for the teacher.

Illustrative General Objectives by Grades and Specific Objectives for Units of Teaching[1]

THIRD GRADE—UPPER DIVISION

General Objectives—To awaken interest in Cleveland by a study of the things Cleveland does for us.

Specific Objectives	*Teaching Units*
Meaning of living in a community (conveniences, education, health, etc.).	Cleveland today
How we move from place to place.	Transportation
Understanding of clouds, rain, storms, etc.	Observational Geography

FOURTH GRADE—LOWER DIVISION

General Objectives

A. To stimulate a desire to study geography by making it real, vital and interesting.

B. To teach simple geographic controls, such as temperature and rainfall, through the study of the peoples of the various continents.

C. To encourage the pupil to use intelligently the globe, world map, physical and rainfall maps, pictures, textbooks, and many books of reference.

D. To develop initiative, power to reason, and the ability to meet and solve new problems.

E. To help the pupil acquire simple basic geographic facts.

Specific Objectives	*Teaching Units*
To help children discover that the trade in furs depends upon the long cold winter of the North.	North America Hunter and Trapper

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[1] Limitations of space made it impossible to include all grades and all general and specific objectives for any one grade. Those printed are illustrative rather than comprehensive.

To help children discover how the people of tropical South America react to the physical controls of the tropics.	South America Tropical Regions
To show how the activities of the people in the temperate region of South America are controlled by temperature and rainfall.	Temperate Regions The Sheep Herder
To lead children to see that the occupations of the Norwegians are controlled by the seacoast and surface of the country.	Norwegian Fisherman
To help children discover that where there is deep, rich soil, plenty of rain and a long growing season the people will be at work in the fields.	Southern Europe The Grape Grower
To help children discover why tea growing is an important occupation in Southern Asia.	Tea Growing Southern Asia

FIFTH GRADE—LOWER DIVISION

General Objectives

A. A knowledge of people and of their reaction to their environment or in other words, life responses to physical controls.

B. A sympathetic understanding of people in other localities and other countries to the end that world peace and human brotherhood may be promoted.

Specific Objectives	*Teaching Units*
To aid pupils to discover the geographic controls of the Southern States through a study of the cotton industry.	Cotton Cultivation
To show how the production of great crops of wheat depends on geographic controls.	Wheat Growing
To show that corn is the most valuable product of the United States because of the unusually favorable geographic conditions found in our country.	Corn and Hog Raising
To show how the desert regions of the Southwest, the Colorado Plateau and the Great Basin have become productive through irrigation.	Irrigation
To show that the United States, due to geographic controls, has a wealth of fish in its streams, lakes and oceans.	Fishing
To show that nearness to coal fields is an important factor in the development of Cleveland and other large manufacturing cities.	Coal Mining

To give pupils ideas of the importance of transportation in relation to their lives.	Transportation
To acquaint the children with the beautiful scenery of our great west.	Our National Parks

SIXTH GRADE—UPPER DIVISION

The viewpoint changes in the sixth grade. The emphasis is given to the influence of physical controls over life responses.

General Objectives

A. To develop in the child ability to reason from cause to effect and to develop power to organize geographic knowledge.

B. To provide practice in the use of texts, maps, and reference books.

C. To develop an interest in books of travel and in the geographic material in magazines and newspapers.

D. To furnish through participation in group exercises opportunity to cooperate with others.

E. To develop an interest in the people of other lands, and an appreciation of the interdependence of the various peoples of the world.

Specific Objectives	*Teaching Units*
To discover geographic controls that have aided the formation of the British Empire.	The British Isles
To show how the geographic controls of Australia have made it valuable to the British Empire.	Australia and New Zealand
To give pupils an understanding of the geographic controls which influence the distribution of the population in Asia.	Asia
To develop an appreciation of the geographical influences that have affected the growth of China.	The Republic of China "The Oldest Living Nation"

Teaching Unit Illustrated—High Sixth Grade

The subsequent material concerns the first of the specific teaching units given just above for the upper division of the sixth grade. Each of the teaching units listed in the foregoing material is similarly developed. Space limitations allowed but one illustration to be given—the one that follows.

The British Isles

A. *Objective*—To discover geographical controls that have aided the formation of the British Empire.

B. *Approach*—1. Why is England of especial interest to us?

1. Why is English of especial interest to us?
    - a. England is our "Mother Country" in the sense that the early settlers came from England and gave to America the English language.

b. Many of our names of places are English, *e. g.*, Manchester, New York, New Hampshire. Give others.

c. Many of our favorite books were written by Englishmen, *e. g.*, Robinson Crusoe, Alice in Wonderland, Ivanhoe, Shakespeare's Plays.

2. What early explorers claimed America for England?
3. Collect newspaper items about England and any of her colonies.
4. Showing pictures of famous places in England will be useful.

C. *Major Problem*

1. Why is the British Empire one of the most powerful nations in the world?—What are the natural advantages that make Great Britain a powerful nation?

a. How is the location of the British Isles advantageous?

(1) What is its location with regard to the continent of Europe? (Insular.)

(2) What waters between the islands and the mainland? Where is the distance shortest.

(3) These islands stand at the gateway to the most productive parts of Europe. (Name adjacent countries.)

(4) They are in the pathway of the busiest water route in the world connecting North Sea ports with the western hemisphere. To what occupation would this lead?

(5) Find the country of North America on the Atlantic coast that is in the same latitude.

(6) What direction would a ship take sailing from New York to Liverpool? (Let pupils measure and find that Liverpool is more than 700 miles north of New York.)

(7) How has this island location affected the character of the English people? Separated by water boundaries from other people, they developed their own language, customs, institutions. Considering the water a protection they did not use their men to maintain a large army. (A powerful navy did not require so many men.) England's insular position developed a love of personal liberty and independence in Englishmen.

(8) Summary: Restate the advantages of location to the British Isles.

b. How have relief and coastline aided the British Isles?

(1) Highlands. Low mountains and hills. Where?

(2) Lowlands. Where in England and Ireland?

(3) How is the broken coastline explained?

(4) Results of such a coastline. (Good harbors, estuaries in rivers and tidal rivers.)

(5) What would this favorable coastline encourage the people to do?

c. Why is the climate of the islands an advantage?

(1) Winds: What are the prevailing winds? What influences their temperature on their way to the islands?

(2) Temperature: How does it vary between northern and southern Great Britain? Why? How does the sea affect the temperature of the islands in summer? In winter? (No part of land at sea level ever reaches 32 degrees in winter. London 64 degrees in July. Compare with Cleveland.)

(3) Rainfall: Considering position and winds infer the amount of rainfall. Verify this by reference to rainfall map. Explain why fogs and mists are common. Which islands have the heaviest rainfall? What does "Emerald Isle" mean?

(4) How does this type of climate react upon the people? Climate is stimulating. Ideal for both physical and mental work. Proof: English are healthy and vigorous. Fond of outdoor sports.

(5) Summarize the effects of the climate.

d. Show that the minerals of the British Isles are an added advantage.
  (1) Coal most important of all minerals. Find by map and text the rank of Great Britain in world production of coal. Locate the coal beds. What substitute for coal in Ireland?
  (2) Iron. How is its location favorable?
  (3) Limestone. Why is it valuable?
  (4) Tin. Mined in very early times.
  (5) Compare location of industrial cities with location of coal and iron deposits. What are your inferences regarding the occupations of the people of these cities?
  (6) Show how Great Britain controls the world's shipping by means of the coal supplies.
  (7) Summarize the proofs that the mineral deposits of British Isles are an added advantage.
e. Find the value of the fishing grounds.
  (1) Location. Surrounding waters. Especially the Dogger Bank in North Sea.
  (2) Kinds—cod, haddock, herring. Fish is the only food product yielded by the country in adequate supply for the people's needs.
  (3) More than 100,000 men are engaged in fishing. This industry trains sailors for the large commerce of the kingdom.
  (4) Chief industry of northern groups of islands—Shetland, Orkney, Hebrides Islands.
  (5) Ports are Aberdeen in Scotland, Hull and London in England.
f. Summary: State briefly the geographical advantages to Great Britain of position, relief, coastline, climate, fishing grounds, and minerals.

2. Why has Great Britain become one of the foremost manufacturing nations?

a. What caused Great Britain to become a manufacturing nation?
  (1) The presence of coal and iron near together. Effect?
  (2) Inventions. (Steam engine, spinning jenny, carding machine.)
  (3) Easy access to markets of the world. (Show by world map.)
  (4) Favorable climatic reaction upon the people.
b. What are the chief manufactures?
  (1) Iron and steel goods: Steel ships—Glasgow; cutlery—Sheffield; automobiles, engines—Birmingham.
  (2) Woolens: Cloth, yarn, hosiery, blankets. Cities—Leeds, Bradford, Lancaster. Why are these cities in the hilly district? (Coal, wool and waterpower near at hand.) Sources of wool.
  (3) Cotton goods: Manchester center of industry. What does the Manchester ship canal mean to this city? Where does Great Britain obtain its raw cotton?
  (4) Linens: Manufacturing in Belfast. Why manufactured in Ireland?
c. Summary: Make brief statements concerning its climate, coal, labor and ease of obtaining raw materials to show why Great Britain has been able to lead in manufactures.

3. Why is Great Britain a leader in the world's commerce?

a. Prove that the insular position is extremely favorable for commerce.
  (1) It is situated near the center of the land hemisphere. (Map study.)
  (2) It is close to the densely peopled countries of continental Europe, the largest markets for its manufactures.
  (3) It is within easy reach of the United States and Canada, the largest sources of food supplies and raw material. (Prove this by the exports from these countries. See World's Almanac.)

b. It is the largest colonial power in the world.

(1) The British Isles have an area less than California and a population of 45,000,000, but nearly one-fourth of the earth's inhabitants live under the British flag. Explain.

(2) The British Empire has colonies on every continent in the world. The trade is controlled by the British. Find these colonies on the world map and make a list. (Bowman—*The New World* gives a list.)

(3) Show the importance of British control of Gibraltar, Malta, Suez, Aden, Hongkong, Singapore, St. Helena, Bermuda, and the Falkland Islands. (Use world map and locate each place.)

c. Great Britain supplies her colonies with manufactured goods. What is received from each colony in return?

d. The coal and iron deposits are extremely important commercially. (Prove.)

e. Great Britain is fortunate in the possession of excellent harbors. (No place on the islands is more than 70 miles from a port. Prove it. Compare with distance of shipments in U. S. How is this an advantage to the manufacturer?)

f. The important sea ports. (Locate them on a map.)

(1) London, Liverpool, Glasgow, Cardiff, Newcastle, Hull, Plymouth, Southampton.

(2) Why are most of them on rivers?

(3) Which port has the largest American trade? Why?

g. Name the food stuffs imported. From what countries? Why necessary? (Wheat, corn, beef, sugar, dairy products, tea, rice.)

h. Name the raw materials imported and the countries from which received. (Wool, cotton, rubber, petroleum, hides.)

i. Great Britain has the largest navy and the greatest merchant marine (10,000 ships) in the world. (Compare with other countries.) Why is it of great importance to the British Empire that these be maintained?

j. Why is London a great world center?

(1) Evidences of relations with all the world; ships in the harbor, the great storage warehouses, strange people in the streets, odd bundles on the docks, and news in the papers.

(2) London ships goods to one foreign country after importing them from another; *e. g.*, Australian wool is shipped to London and then probably to Philadelphia. Ceylon rubber is sent to London and then to Ohio.

(3) With all this foreign business, London is a great banking center and the capital of the British Empire.

k. Who have helped build the empire?

(1) British explorers, (2) Settlers, (3) Traders, (4) Shipowners, and (5) Investors in foreign countries.

D. *Final summary*

1. The British Empire is one of the most powerful nations in the world because:

a. The climate and relief have developed a strong, vigorous people.

b. The location is advantageous for the world trade.

c. The abundance of mineral resources and accessibility of raw materials have aided the development of manufacturing and commerce.

E. *Map Study*

1. Locate on an outline map: London, Hull, Edinburgh, Glasgow, Liverpool, Manchester, Sheffield, Cardiff, Dover, Dublin, Belfast. The Thames, Clyde, Mersey. The Strait of Dover.

2. Trace a ship load of cotton from Galveston to Manchester.
3. Accompany a cargo of wool from Sydney to London.
4. Name the British ports on a sea journey from England to Japan.
5. Trace a bale of cotton from India to Manchester and the shipment of the cloth to British East Africa.

F. *Special Exercises*

1. Select an interesting place in London and tell why you would like to visit it.
2. Take a trip up the Thames describing the interesting places you pass.
3. What English products may be found in Cleveland?
4. How does the Manchester Canal help to lower the price of cotton goods?
5. How is peat formed and why has Ireland so much of it?
6. Describe a shipping port in the British Isles.
7. Upon what country did the United States depend for carrying much of her freight and her soldiers during the World War? Why?

G. *Visual Material*

1. The Educational Museum will supply the following visual aids:
    a. Mounted pictures in sets. (The specific sets available should be listed according to general subjects.)
    b. Lantern slides: London, England, Scotland, Ireland, and Industries in British Isles.
    c. Postal Cards. A large collection. Send order for subjects desired.

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The Cleveland Social Studies Course—Grades VII to IX

The preliminary work accomplished in the first year—Late in 1923 a central committee and a number of sub-committees, charged with such phases of work as "history," "geography," "objectives," and "cooperation with elementary schools," were appointed to look into the problem of revising the Cleveland courses in the social studies. These committees were aided by representatives of the division of research and of the history and geography departments of the school of education and of some of the high schools. The fruits of the first year's work were:

First, reports upon the content of courses in the social studies and upon pupil activities in selected social studies classes in the elementary schools.

Second, a collection of the social objectives held by teachers of geography, history and occupations, and counselors in social, educational and vocational guidance.

Third, a fairly definite idea of the teaching unit—an extended body of materials and pupil activities grouped about a social problem recognized by pupils and accepted by teachers as apt to lead to the realization of a worthy objective.

Fourth, a fairly clear notion of the agreements and disagreements among all the persons concerned in the reconstruction and use of the courses in the social studies and the origin of these differences in different schools of thought the country over.

Fifth, a wholesome ferment of ideas and ideals among all teachers, and the joyous realization among a fairly large group that they were to be allowed the privilege of participation in the adventure of curriculum making.

Make-up of committees after the first year—Most of the first year's work was accomplished by teachers who at the same time carried full teaching programs. Beginning with the second year, a single central committee was created, composed of fifteen junior high teachers and two representatives of the research department. The teachers were given ap-

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[2] The original draft of this section prepared by William L. Connor, chief, Bureau of Educational Research, Cleveland, Ohio. Space limitations made it necessary to reduce the length of the original draft.

proximately one-half time for committee work. During the third year of the work, four teachers are giving one-half time, fourteen one-sixth time, and three research workers one-third time. The four teachers serve as a central editing committee, and with the fourteen act as an intercommunicating group between the central editing committee and the teachers of the schools. Through the work of this group, teachers not on the committee are learning to teach the new units and are themselves participating in the construction of units. The central editing committee holds meetings with the teachers of social studies in separate schools, helping them to get started at teaching units already constructed or constructing new units. This reenforces the work of the individual members of the intercommunicating committee. The editing committee determines for each new unit the final form in which it is to be mimeographed for distribution.

Some of the more courageous teachers have permitted stenographic reports to be made of their teaching of certain units. These reports have been made available for other teachers to read and discuss.

Curriculum construction and supervision—The work to date justifies the belief that curriculum construction work offers an unequalled opportunity for effective supervision. A good test of supervision is the presence of a great deal of thoughtful teacher activity which bears upon the improvement of instruction. This test is met by the well-organized curriculum revision programs in which large groups of teachers, relieved of the self-consciousness that so frequently accompanies attempts to improve personal technique in the classroom, freely participate in the improvement of objectives, materials, and pupil activities.

The subsequent paragraphs report some of the accomplishments to date of the Cleveland committees on social studies, grades seven to nine.

Collection, Codification and Evaluation of Objectives

Hundreds of objectives were submitted by the teachers of the city. Others were obtained from such sources as the publications of Bobbitt and Snedden. These objectives were classified into five general classes:

I. To help pupils acquire information and skill which will be of value to them in continuing their education.

II. To help pupils explore vocational interests through the materials of the social studies.

III. To help pupils enjoy the materials and methods of the social studies for their own sake.

IV. To help pupils protect their own interests better while respecting the interests of others.

V. To help pupils become generous and efficient contributors to the solution of common problems of school life, and of civic, economic, and social life.

Evaluation of objectives—One hundred and forty social studies teachers participated in the evaluation of these objectives. The result of the statistical study of their opinions follows:

Objectives	Points	Percent
I.	700	7
II.	1,100	11
III.	1,400	14
IV.	1,700	17
V.	5,100	51
Total	10,000	100

These values indicate the amount of time to be devoted to different phases of work. For example, according to the rating given above, sixty class periods of a possible 550, or eleven percent, in a three-year course in social studies would seek "to help pupils explore vocational interests through the materials of the social studies."

After general and specific objectives have been determined, the next step is the development of the teaching units through which the objectives may be obtained. The subsequent material illustrates how a teaching unit may be built around a pupil's problem in fulfilling a worthy objective. This teaching unit resulted when some junior high school pupils reported seeing some men "picketing" some Cleveland business establishments and questioned their teachers as to what it meant. The teachers thus questioned in consultation with the social studies curriculum committee undertook to develop a series of lessons with the following specific objective: "To have pupils appreciate the benefits of cooperation between capital and labor." The teaching unit, given in abbreviated form below, illustrates the work done. It is now a tentative part of the Cleveland course in social studies.

A Teaching Unit Illustrated

The approach to the problem—The skilful teacher will think of many interesting ways of raising the question of cooperation between labor and capital. For example:

A. The pupils may discuss studies of which they have personal knowledge.

B. The teacher may read a letter written by an employer to his employees.

In the development of the unit concerned the approach was determined when some junior high school pupils reported seeing men marching up and down before two prominent business places carrying placards reading:

The John Doe Co.
Is Unfair to Union Labor
Please Do Not Patronize

Pupils' statements and questions—The pupils under the guidance of skilful teachers actually asked these questions:

A. Why do men strike?

B. Do they always get what they want?

C. Have those individuals a right to walk up and down in front of —— with banners telling people not to eat lunch there?

D. Is there any other way of settling labor troubles besides having strikes?

Closer definition and selection of a problem by pupils and teacher

A. How may capital and labor best cooperate?

B. What social services do capitalists perform?

C. Why did labor organize?

The solution of the problem

A. Preliminary discussion of how to work.

(1) Pupils may secure the constitution of a union.

(2) Pupils may read in newspapers and magazines of difficulty between capital and labor.

(3) Pupils may discuss material in textbooks and reference books.

(4) Debate. Many subjects suggest themselves such as:

a. Is the strike a good way of settling labor disputes?

b. Would the capitalist render greater social service if he increased the wages of his workers than if he paid lower wages and increased his contributions to educational agencies, libraries, etc.?

(5) Pupils may make a collection of pictures showing working conditions in various industries.

(6) Pupils may visit factories.

B. Preliminary discussion of materials

(1) What must be considered in discussing a student's report of a talk on the labor problem with a union worker? A non-union worker? Employers?

(2) In what way can biographies of captains of industry and labor leaders help us better to understand the problem?

(3) Does the press usually take sides in labor disputes or is it generally neutral?

Statement of related problems

A. What effect has immigration on labor conditions.

B. What are the conditions in the metal industries in Cleveland?

The function of the teacher

A. Plan the approach to the problem so carefully that children will be led to ask questions and to seek information on problems of capital and labor.

B. Help pupils to select the problems for study.

C. Cultivate in pupils an open-minded attitude.

D. Near the end of the teaching unit direct the thought of the class toward the major objective by asking such questions as the following:

(1) Why are conditions in factories improving?

(2) Has the public a right to be heard in labor disputes?

(3) Are the interests of capital and labor opposite or mutual?

(4) What would be the result if capitalists and laborers showed greater personal respect for each other?

Outline—Capital and Labor

The subsequent outline covers the question of the relations between capital and labor. It illustrates the type of outline which may be prepared for the use of the teacher in developing a topic. The preceding paragraphs have presented an example of the formulation of objectives and the development of a teaching unit of the type needed by a teacher in connection with the outline which follows:

Capital and labor

A. Factors of production: (1) Land, (2) Labor, (3) Capital, and (4) Management.

B. Results of industrial revolution on industry: (1) Division of labor, (2) Loss of personal relation between employer and employee, (3) Large scale production—with world market, and (4) Great complexity of industrial order.

C. Forms of organization of capital: (1) Single proprietorship, (2) Partnership, (3) Corporation, and (4) Trusts.

D. Forms of organization of labor: (1) Trade or craft union, (2) Labor union, and (3) Industrial union.

E. Points of controversy: (1) Division of profits, (2) Hours of labor, (3) Working conditions, and (4) Management of industry.

F. Methods of settling disputes:

- (1) Anti-social: (a) Strike, (b) Lockout, (c) Blacklist, and (d) Boycott.
- (2) Social: (a) Conciliation, (b) Arbitration, and (c) Profit-sharing.

G. Losses from labor disputes: (1) Decrease in production, (2) Destruction of property, (3) Wages of workers, and (4) Expenditures for police and militia protection.

H. Labor legislation: (1) Department of Labor, (2) Adamson Law, (3) Minimum wage laws in various states, (4) Workmen's compensation laws, (5) Social insurance laws, and (6) Laws regulating conditions of work.

Readings

A. Indispensable readings

(1) Textbooks:
- a. Beard, C. A., and Bagley, Wm. C., *History of the American People*, ch. 16, 17, 27. Macmillan, 1920.
- b. Woodburn, J. A., and Moran, T. F., *Elementary American History and Government*, ch. 38. Longmans, 1918.
- c. Bourne, H. E., and Benton, E. J., *History of the United States*, ch. 44. Heath, 1921.
- d. Hughes, R. O., *Elementary Community Civics*, ch. 22-23. Allyn, 1922.

(2) Easily obtainable books and magazines:
- a. Woodburn, J. A., and Moran, T. F., *The American Community*, ch. 18. Longmans, 1924.
- b. Baker, Ray Stannard, *The New Industrial Unrest*. Doubleday, 1920.
- c. Rowntree, Benjamin Seebohm, *Human Factor in Business*. Longmans, 1921.

d. Williams, Whiting, *What's on the Worker's Mind?* Scribner's, 1920.
e. Wildman, Edwin, *Famous Leaders of Industry,* Page, 1920.
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h. Johnson, J. F., *We and Our Work,* ch. 17. American Viewpoint Society.
i. *Monthly Review* of the United States Bureau of Labor.
j. Smith, H. B., *Industrial History,* pp. 279-280. Macmillan, 1923.
k. *Current Opinion,* October, 1922, "A Way to End the Jungle Fight between Labor and Capital," p. 452.
l. Corre, Mary Price, *The Metal Industries in Cleveland,* pp. 96-107.
m. *System,* September—November, 1924, Vol. 46: 270-4, 441-5, 583-7. "A President's Letters to His Workers," George F. Johnson.

How Materials are Being Selected

In constructing this social studies course for junior high schools, the earlier steps had to do with collecting, codifying, and evaluating objectives. As this work progressed, and specific objectives emerged, construction of teaching units around these objectives began.

Criteria for selection of material—The first question asked about the desirability of including any piece of material or equipment, or any form of pupil activity in the course was this:

1. Does it seem likely that this material will help pupils to realize the objective under consideration?

In order to check material and activities further the following additional questions were asked:

2. Is it likely that this material or activity will contribute to the solution of the problems which the pupils themselves define or accept as worthy of their efforts?

3. Is it likely that this material or activity will suggest to pupils other problems of value and enlist their interest in them?

4. Does the material or activity assist teachers and pupils to see relations between different branches of the traditional social studies?

5. Does the material or activity furnish its own "drive"?

6. Does the activity call for sufficient purposeful repetition to insure adequate learning?

7. Is the material available, or can it be made available in quantities sufficient for the purposes of the course?

Of course every piece of material or every activity included does not satisfy every criterion set up above. However, most of the material satisfies three or more of the criteria. A few examples from the unit appearing above will not be amiss.

Some Difficulties

The mind-set for the old prescriptive course—In spite of every effort to interpret the course as a record of the experience of other teachers and classes set down as illustrative of the kind of work expected, some teachers have insisted in regarding it prescriptive as to details. Quoting one of the members of the intercommunicating committee somewhat addicted to humor and verse:

> And one, sober-minded beyond all the rest,
> Eager to do and to dare,
> Struggling forward to attain to the best,
> Came after three days with flaming protest:
> '*How* can I *ever* get *my* class to ask
> *Just* the questions they put in the unit?'

This type of question stimulated the preparation of stenographic reports to show how good teachers vary from the materials and activities in the units. The teacher who had most to do with the production of the "labor and capital" unit illustrated above found her classes this year most interested at the beginning in "labor and capital" as they appear in the "movie," "The Ten Commandments" and in the newspaper and magazine reports of the coal strike in Pennsylvania. By comparing the unit *as written* with the unit *as taught* the literal-minded teacher long enslaved to prescribed detail is helped to understand the meaning of the course.

Danger of misinterpretation by public—The public press is of course interested in any marked departure from traditional procedure, and is of great assistance in spreading news about the progress of the course and some of the central ideas behind it. All Cleveland editors have shown keen appreciation of the work and have exercised admirable restraint in refusing to muck-rake its crudities. However, in their enthusiasm they have spread the idea that the old textbooks are doomed,—that boys and girls may bid good-bye to their geographies and histories.

Of course this is not true. Every unit contains, first of all, references to the material in the adopted texts, and, because of the new approach, teachers are able to get pupils to read their textbooks much more purposefully than they ever did before. In fact, to some members of the committee it would seem undesirable to have the new unified course inside the covers of one textbook, since this will be a move in the direction of the "re-formalizing" of the work.

The fear of insufficient drill—Many teachers fear that the quantity of material with which pupils deal and the free and easy discussion in which they engage about the questions and projects they have at hand will prevent them from learning anything at all. As a matter of fact, the course provides for the use of three main drill devices, (1) outline maps, (2) graphs, and (3) the historical frieze or date line. Every teaching unit and project calls for the use of these devices to a certain extent and some of them call for very extensive use of them. In constructing these devices the pupil gets a concentrated and meaningful impression of the facts to be remembered.

By using these devices for daily recapitulation, and towards the end of the unit for reviews of the time, place, and other quantitative data involved, the most natural and effective drill possible is attained. Probably no method is so effective in getting teachers to try these devices as seeing other teachers try them.

Textbooks—As noted above some persons believe that under the plan proposed here textbooks can be dispensed with. However, the Cleveland committee seems to believe that practical difficulties make this impossible for the present. Therefore, it has decided that pupils should own and use the following texts:

7-B	Advanced Geography
7-A	Advanced Geography, and History of the United States.
8-B	Same as 7-A
8-A	Same as 7-A
9-B	Add civics or elementary sociology to 7-A books
9-A	Same as 9-B

The committee recommends that books should be used, however, to help realize specific objectives, not as ends in themselves.

Teacher training—The method of curriculum construction, outlined above is serving as a method of teacher training. However, it is not entirely adequate in a large city. Courses are now being set up in the School of Education to train teachers in the specific task of teaching pupils under the new plan. Some of the best teachers participating in the work will teach combination courses in the training school and the School of Education, offering their teaching of pupils as illustrations that will be suggestive to those enrolled in the courses.

Use of Local Material in the Social Studies[1]

The Cleveland social studies courses involve the use of much local information. To bring this material together in convenient form for use as instructional material, three teachers spent a considerable period in research.

Strategic location of Cleveland—Information concerning the early development of the city's transportation and manufacturing industries were collected in the Cleveland Public Library and the Cleveland Historical Museum, and from old newspaper files. To accompany this, the committee obtained permission from the Chamber of Commerce to use its most recent publications containing the latest reliable information on the city's present status in trade and manufacturing.

A heritage of ideals—County histories and publications of the Pioneer Settlers' Association furnished the material for this unit. These books contain true stories of pioneer experiences and ideals—a heritage for the present generation. This material is being written into interesting stories for pupils of the junior high school.

Occupational information—About sixty periods in the eighth grade are given to a study of groups of related vocations having a common basic knowledge content, for example, the food industries, the metal trades and telephone occupations. A series of forty units covers important world occupations dealing with the high spots and bringing out educational requirements necessary to participation in these fields of endeavor.

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[1] This section prepared by Verdine Peck Hull and May Rogers Lane of the Cleveland Social Studies Committee. Space limitation made revision and reduction of the original draft necessary.

Work is in progress assembling information for those occupations in which the largest numbers of Cleveland's pupils will find employment and for which there are high school preparatory courses of study.

These types of material are being made accessible for pupils whose interests lead them deep into the study of occupations: pamphlets issued by vocational guidance bureaus, industrial pamphlets, pictures and lantern slides, facts and charts from the census, stories from magazines and local papers, trade journals, college catalogs and carefully selected bibliographies of reference material.

Pupils can conclude the study of an occupational unit by a consideration of such questions as: If you were to take up one of these vocations which one would you follow and why? Have you the qualifications, interest, and opportunity? What courses of study would you take and where?

The Ideal Social Studies Classroom[1]

The social studies classroom described here might better be termed a laboratory or workroom. Schoolmen are coming to recognize that the social studies have a peculiar technique as have natural sciences. Because of this fact, teachers are trying to transform their classrooms into laboratories. This report should be of some value in helping teachers to transform classrooms into social science laboratories.

Social science department—A social studies department in a junior high school should:

I. Merge all social studies in the building in one department located in the same part of the building.

II. Provide storage facilities easily accessible to rooms and teachers as follows: (a) Cabinet with long adjustable iron arms to hold all roller maps; (b) steel filing cabinets for mounted pictures and outline maps; (c) steel cabinet for lantern slide containers and large graphs and charts; and (d) storage facilities for reserve supplementary books.

III. Provide a combined departmental library and teachers' workroom containing: (a) Adequate supply of text and supplementary material; (b) desks where teachers may work during free periods; and (e) a typewriter.

Discussion and laboratory room—The modern social studies classroom should have these characteristics:

I. Size—one-half larger than ordinary classroom.
II. Furnishings:
  A. Tables with drawers, and chairs, both equipped with sliding casters
  B. Teacher's desk with adequate drawer space
  C. Filing cabinet for cards and mounted pictures

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[1] This section prepared by Robert I. Kutak, secretary, Junior High School Social Studies Committee, Cleveland. Space limitation made it necessary to revise and reduce the original draft.

D. Built-in bookcases, large enough to accommodate an adequate supply of supplementary books

E. Blackboard, bulletin board, and map rail

1. Front wall: (a) Blackboard in center, low enough so that pupils may write with ease. Space should be left on either side for bookcases; (b) cork bulletin board at least two feet wide across entire front of room above blackboard and bookcases; and (c) map rail on blackboard moulding along entire wall.
2. Side wall, opposite windows: (a) Blackboard as in (a) above; (b) cork bulletin board as in (b), except that it should extend down on sides of blackboard to level of base of board; and (c) map rail on blackboard moulding along entire wall.
3. Rear wall—cork bulletin board to conform with boards on side of room. Space should be left for built-in cabinets. Map rail on blackboard moulding along entire wall.

F. Base plugs in each meeting room for quick service in use of lantern, projector, solar equipment, etc.

G. An easily portable lantern, inexpensive but serviceable.

III. Laboratory equipment: (a) Sink with running water and washing equipment; (b) shelves for displaying models; (c) exhibit cases glassed for a permanent museum. These may be placed in hall adjacent to room; (d) large steel cabinets for storing work under way; (e) necessary tools and equipment, such as drawing paper, drawing equipment, paste, colors, etc.; and (f) cabinet for teacher's personal use.

IV. Books: (a) Single copies of new social studies books should be secured for experimentation. Teachers should select those best adapted to their problems and secure sufficient copies for pupils; (b) encyclopedias and a dictionary for each room; (c) statistical references, such as *Statesman's Yearbook, World Almanac,* etc.; and (d) a set of good school atlases, historical and geographical.

V. Maps:[1]

A. Political *on physical base:*

1. For each room: (a) United States, polyconic projection preferred; (b) Europe, conic or Lambert's azimuthal preferred; (c) state, conic or polyconic preferred; (d) city or county, conic preferred; and (e) world, interrupted homolographic or homolosine preferred.[2]
2. For the department (available when needed): (a) South America, Lambert's azimuthal, Sanson's sinusoidal, or polyconic preferred; (b) Asia, Lambert's azimuthal or Boone's projection preferred; (c) Africa, sinusoidal or Lambert's azimuthal preferred; and (d) North America, Werner's, Lambert's azimuthal, or polyconic preferred.

B. Physical (projects are not repeated):

1. For each room: (a) United States; and (b) Europe.

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[1] Room maps should be of roller type; maps for use of department should be easily portable, of the folded type to be hung on hooks fastened above blackboard. See that eyelets in maps and hooks in wall are spaced a standard distance apart. A better solution is the map rail with adjustable hooks.

[2] The committee disagreed as to whether the map of the world should be an interrupted homolographic or a Mercator's projection. A Mercator's projection may be best for some purposes, but does not give an accurate conception of relative size. A Mercator's projection with a small interrupted homolographic in one corner would solve the difficulty. The homolosine is a still better projection for world maps. None is published at the present time.

2. For department (available when needed): (a) Africa; (b) Asia; (c) Australia, sinusoidal, conic or polyconic; (d) South America; (e) state.

C. Slated or blackboard outline:

1. For each room: (a) Europe; (b) state; (c) United States; and (d) world.

2. For department (available when needed): (a) Asia; and (b) South America.

D. Special maps and charts:

1. For each room: (a) American history series; (b) European history series; and (c) Economic series.

2. For each department—miscellaneous maps such as those dealing with rainfall, population, etc.

E. Globes:

1. Pendant physical globe, political outlines in red overlay, 1 inch to 500 or 1 inch to 300 miles.

2. Blackboard globe on standard, with outline of continents, and main lines of latitude and longitude.

Score Sheets for Maps and Charts[1]

The following section suggests tentative criteria for the evaluation of maps and charts. The rating is based upon a consideration of seven important qualities without detailed consideration of the minor factors which go to make up these qualities. The qualities considered are given below.

I. *Purpose of map*—A map should be rated as to whether it will answer the purpose for which it is to be used. Examples of purposes follow:

A. Quick and convenient reference on miscellaneous questions.—Combination physical and political maps.

B. For illustrating special physical or social problems as developed in class, and for testing knowledge of special problems.—Outline maps, blackboard and desk.

C. For illustrating directions and world trade routes.—World map, Mercator's projection, or globe.

D. For showing physical features.—Physical map.

E. For teaching names, locations, and boundaries of political divisions.—Political maps.

F. For teaching winds and rainfall, and other weather conditions.—Physical map with prevailing winds and ocean currents shown.

This list of uses is not intended to be exhaustive, simply illustrative. The specific purpose should be written into the heading, and the adaptability of the map to the purpose, scored under Item I.

In using the score sheet given on page 357, the specific purpose for which a map is to be used should be indicated in the space provided, and the map being considered should then be scored under the first item according to its adaptability to the purpose.

II. *Accuracy*—Consider the accuracy with which physical features are presented on the map. The scoring of a map on this item, and on item III below, calls for expert or specially trained teachers. Authors of maps should be able to present evidence of scientific checking as to accuracy.

III. *Up-to-dateness*—Features of the map should be kept up-to-date.

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[1] This section prepared by the Cleveland Junior High School Map Committee.

IV. *Legibility*—The visibility of a map should be checked at distances of from ten to thirty feet.

V. *Ease of handling*—A roller map in a cylindrical steel case is usually easier to handle than in a wooden case. Single maps are usually more convenient to use than collections mounted together, but in some cases several maps may be mounted on rollers in the same case, if there is easy interchangability of rollers. Some teachers advocate, for special purposes, folded maps with eyelets. In such cases the eyelets should be spaced at a standard distance. A map rail with adjustable hooks may solve this difficulty.

VI. *Durability*—Consider weight, flexibility, strength, surface, reinforcement at points of hard usage.

VII. *Artistic merit*—Consider color values, borders and mountings.

The following form may be used in rating a map on the qualities indicated.

SCORE SHEET FOR MAPS, CHARTS AND GLOBES

..................Title .... Author
...............Publisher ....Date of Publication
..................Kind .... Projection
..................Size .... Mounting
Specific purpose ....
....
....
....
Price ....

Adaptation to Specific Purpose.....	0	2	4	6	8	10 x 25	....
Accuracy of Physical Features.....	0	2	4	6	8	10 x 15	....
Up-to-dateness of Political Features	0	2	4	6	8	10 x 15	....
Visibility in Ordinary Use........	0	2	4	6	8	10 x 15	....
Ease in Handling................	0	2	4	6	8	10 x 10	....
Durability	0	2	4	6	8	10 x 10	....
Artistic Merit...................	0	2	4	6	8	10 x 10	....
Total..............................							....

....
Scorer.

....
Official Title.

A Unit Course in the Social Studies—Grades VII to XII[1]

Desirability of unit course—The possibility of building a unit course in the social studies has attracted wide attention. The advantages of such a course are many, if it can be evolved and put into practical operation. It would supply the teacher with a more carefully organized and more teachable body of materials.

Guiding principles—The experiment reviewed here was undertaken in the Lincoln School with the object of realizing a six year unit course in the social sciences for grades seven to twelve inclusive. The experiment was based upon the acceptance of certain principles which served as the basis for the selection of subject matter. First, the idea of a unified or composite body of material was closely bound up with the idea of progress within the subject or subjects forming the real body of the course. But it was not *American* history or *European* history or the geography of *North America*, or *physical* or *human* geography as subjects which were emphasized. Rather the work done in these fields was but a step whereby the cumulative effort at the end of six years should result in a progressive unfolding of the field so that the child would begin to realize the value of the materials presented. Second, it was accepted that adherence to traditional subject-matter boundaries, marking the efforts of the past, yielded much of value that could be capitalized for present school practice and social needs. Some recognition must be accorded these in initiating any movement toward a reorganized social studies committee. Third, the reorganization was in terms of a six-year program, with the junior high school as the starting point. The assumption was that whatever was done in this school would make or mar what was done later. No course should be planned for the three upper grades which does not take full cognizance of the work of these three pivotal years of the junior high school.

Source of history objectives—The work of the Committee on History and Education for Citizenship[2] supplied the objectives and aims applicable to the selection and organization of material drawn from the field of history among which were the following:

> Every new step in history instruction should be a step forward in the subject. Hereafter there are to be no gaps between the pupil's historical knowledge and the life he enters on leaving school.
>
> One of the guiding principles in methodology is the necessity of placing greater stress than formerly upon significant interpretative ideas as opposed to a multiplicity of unrelated facts.

This committee's work also supplied the general outline of the work to be done in history in the six secondary school years which became the basis of the experiment. This work merely outlines the fields from which the selection of materials may be made. Then suggestions as to content follow.

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[1] This section prepared by Daniel C. Knowlton, Lincoln School, Teachers College, New York City.

[2] See report in Historical Outlook, Vol. XII, pp. 87-97, 119-143, 165-184, 208-218.

History Content—Grades Seven to Nine

American history in its world setting—This will constitute a third unit designed to form a development of the work of the elementary grades. A few facts of primary significance in the development of civilization are arranged so as to form a connected story. Our country is treated as a part of the world whole, but with special emphasis upon our contributions and problems. This work is divided as follows:

Seventh grade: The world before 1607, and the beginnings of American history, including the building of the Spanish Empire in the New World, the basis of the present group of Latin American Republics.

Eighth grade: The world since 1607 viewed in relation to the evolution and expanding world influence of the United States. Treatment is to take account of civic problems, but to emphasize specially the economic and social features of our history up to recent times.

Ninth grade: Community and national activities. This course combines recent economic and social history with commercial geography and civics. (As an alternative for pupils of the ninth grade who expect to complete the senior high school, a course in the progress of civilization from the earliest times to 1650 is recommended.)

History Content—Grades Ten to Twelve

The Modern World—This fourth unit, for pupils about to function as citizens, will consist of the following:

Tenth grade: Progress toward world democracy, 1650 to the present. This will be a study mainly of European history, but with some attention also to the rest of the non-American world.

Eleventh grade: The above course will form the background for a study, in the same spirit, of United States history during the national period, with emphasis on a list of topics to be selected for special treatment, and with critical comparisons with institutions and with tendencies in other countries.

Twelfth grade: Social, economic, and political principles and problems.

No further attempt was made by the Committee on History and Education for Citizenship to illustrate the organization and handling of this content in the seventh and eighth school years. Their separate reports upon the three years which followed (nine-twelve) were merely illustrative of ways in which these principles might be interpreted and clothed with the flesh and blood of specific content. In setting up the present experiment therefore, at the Lincoln school the writer felt perfectly free to use only so much of these materials as suited his purpose.

Program of Curriculum Procedure

Recognition of the separateness of subject fields—Those participating in the experiment frankly accepted that the differentiation of subject matter into such fields as geography, history, civics and economics should be utilized to the full, and that the technique peculiar to handling this material when taught as separate subjects, should be utilized in the unified program.

The social studies were to be conceived as a unit, but the values which scholars attach to this knowledge were to be preserved as far as possible. The child and the way in which children learn were accepted as outstanding considerations in the selections of content and method.

The assumption that the recognition of relationships was one of the best evidences of learning led to the inquiry as to what relationships or concepts the social studies supplied. In selecting these concepts the chief reliance was placed upon the specialists or expert in the fields concerned. The outlining of a body of such concepts by the Committee on History and Education for Citizenship already mentioned, and the defining of each of the fields as to its educational value by the Joint Commission on the Presentation of the Social Studies[1] were of great assistance in formulating both concepts and objectives.

It was further assumed that such concepts ultimately contribute toward an understanding of the world in which we live, and insofar justify inclusion. Not merely to know history as history, or geography as geography, but to know the world and understand its problems, using all that history and geography can contribute to that end: this was to be the ultimate goal toward which content and teaching were directed. It was assumed that the "clear thinking" was furthered and promoted by preserving the identity of these materials. This did not involve their preservation as separate subjects, in separate compartments. The treatment was to be separate enough so that the pupil—insofar as his limitations made this possible,—would be able to allocate to nature or to man, or to a combination of these factors the responsibility for the complexity of modern life.

Relation of materials to existing courses—Much of the material used in the initial stages of experimentation was not new. In the field of history, a certain minimum of content material was drawn from courses usually described as the European background of American history. This material, however, was placed in the seventh school year.

In geography some of the material assigned to grades seven and eight had already been introduced into the curricula of schools of the better type. This content however, in the present experiment was profoundly modified as the result of the concepts which were accepted and also as a result of the relationships established between it and the content in history and civics.

Principal concepts—The concepts which were drawn from the separate fields of study and the nature of their relationships follow:

Geography—The outstanding concept emphasized is that of geographic control—the recognition of the kinds of control which have their origin in natural conditions, and the *nature of their influence upon man.* These controls center about such physical features as climate, ocean, plain, oasis, river, forest, grasslands, and the like, as they have tended to shape the life and habits of the people of the world from the earliest times. The recognition of these controls is a concept appropriate to the junior high school cycle.

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[1] The report of this Joint Commission may be found in the Historical Outlook, Vol. XIV, No. 2, page 53. This Commission was made up of representatives from American Historical Association, American Economic Association, American Political Science Association, American Sociological Society, National Council of Geography Teachers, and the Association of Collegiate Schools of Business.

History—The principal concept here is the development and spread of civilization, noting that its earliest homes were in restricted areas, but that its field of operations gradually widened until the whole world became a veritable nexus of conflicting ideals and ambitions. The element of change and the influence of place is to be constantly emphasized.

Relation of the history and geography content—It is the interrelation of these forces—those supplied by man and those peculiar to natural conditions—that serves to integrate the material.

"History is a story of important events which have happened, with a statement of the causes which have brought them about and of the effects they have had on man."[1] In other words, history is an orderly relation of events which show the processes whereby man has gradually made a wonderful advancement. In all of this work we must show "how the history of the world has been controlled by the conditions and phenomena that we class together under the title of geography;" in other words, to determine the extent to which man dominated natural conditions or was himself dominated by them. "All the world's a stage." Our special concern is "The setting of the stage." We should aim to show "how the stage was set at different epochs in the history of the world," and "how the stage has been set for that act of the drama now being played." We should trace out the ways in which geographical conditions affect the actors.[1]

Eighth Grade Course as an Illustration of Procedure

Foundation materials—Accepting the brief outline in history proposed by the Committee on History and Education for Citizenship as a guide, two comparatively recent textbooks covering the period from 1600 to the present were placed in the hands of the pupils during the first year, one dealing with world movements and one with the history of the United States. These supplied definite material which could be tested as to its limitations and possibilities without taxing unduly at the outset the resources of the library or the patience of the children. This material was then studied through classroom contacts. The work was handled as "history" with plentiful exercises in the related field of historical geography. Little effort was made to introduce definite portions of geography or civics as the outline below indicates. At the end of three years definite exercises or projects of a rather comprehensive nature had been worked out by pupils and teacher. These seemed to indicate the core of the material needed. The material necessary to handle the problems was then brought together and was organized in story form. The emphasis throughout the reorganized materials was upon the vivid and the dramatic. Certain selected episodes of world wide significance were narrated in great detail and with much life and color.

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[1] Fairgrieve, James. *Geography and World Power.* A Textbook Illustrating the Geographic Control of History. London. Hodder and Stoughton, 1915

Problem of methodology—A technique was developed simultaneously with this effort to discover a type of exercise—as contrasted with the content itself—which would not only appeal to the child but would represent a valuable contact with history as a body of organized knowledge. The general method utilized was that of reconstructing past scenes or of re-living the past—a visualizing of what had actually happened, using for this purpose map, picture, diagram and source. Each problem was an exercise of this character. The majority of the exercises ultimately took on a written form, and the organization and method could always be checked against the results attained. Progress was measured by a comparison of exercises as the work proceeded. Success or failure depended more upon the pupil's power to analyze, reconstruct, and re-live a past period, than upon the actual information remembered.

Certain large problems were selected with sufficient ramifications to enable the teacher, if he would, to break a large unit up into smaller ones. Each problem was based upon an effort to appreciate the significance of the element of time in human affairs, the importance of a different environment, place relationships, and the persistence of custom and tradition.

Nature of new materials involved—The following are some of the titles used for the stories:

The Son Who Remembered and the Son Who Forgot and the Glorious Revolution of 1688
How the King of France Inherited a Revolution and What Came of It
How Iron Men Began to Do the World's Spinning and Weaving
How a War Torn Map Was Re-made and the People Who Could Not Forget.

The following represent some of the problems covering the period of the French Revolution and Napoleon:

1. How many scenes do you actually see between May 5, 1789, and July 17, 1794? List those, or arrange them along a time line, giving each an appropriate name or title. Indicate the time and place and the actors in each. After your list has been completed select the three or four at which you would have chosen to be present had that been possible. Present them in the form of a drama or a series of pictures, or a movie, as you prefer.

2. Napoleon was a dreamer of dreams and a schemer, reminding us in some ways of Philip II and Louis XIV. Try to indicate in some graphic way the schemer and his schemes. Philip II was represented as a spider; Louis XIV as a Sun-King. How would you represent Napoleon and show the character and extent of his schemes?

All the work was done under the direct supervision of the instructor. There was no required home assignment. One of the objectives sought in the experiment was to determine what can actually be done in the time allotment of four periods a week. The material for the solution of the problems was to be drawn altogether from the text which was made as concrete and as simple as possible. An illustration follows:

It was in 1814. Napoleon had been banished to the island of Elba. His hopes of creating for himself and for his young son and for the Napoleons who might follow him a great empire which should extend over all Europe, had been dashed to the ground. It was mid-summer and the roads to Vienna began to be thronged with brilliant cavalcades making their way to the Austrian capital, there to be the guests of His Excellency, the Emperor. Among the number who assembled there were no less than two emperors and four kings, and princes without number, to say nothing of the great men of state. Every state in Europe was represented except Turkey, from those with a few square miles of territory to great empires like Russia, Austria, and England with possessions in other continents. The word had gone forth that the map which Napoleon had so ruthlessly torn to pieces, and put together again, was to be re-made, and who knew what might be gained or lost in the process?

The Congress—for that is what they called it—they said, would probably open in June or July. Then it was announced for September. October came and went and still it did not open. Meanwhile the assembled kings and princes were having a wonderful time, with balls and dinners, excursions and concerts and the like. The old Duke de Ligne on his death-bed consoled himself with the thought that the funeral of a Knight of the Golden Fleece would furnish another occasion for a grand celebration. The great composer Beethoven, who had lost his hearing by this time, gave a concert to which he sent personal invitations to all the great ones. The Emperor spared no expense to make the stay of his guests pleasant. The Austrian pocketbook was empty but in spite of this he managed to spend $16,000,000 on their entertainment.

The Tsar Alexander, the ruler of all the Russians, had a dream. It was a strange dream for a ruler who had the power of life and death over his subjects and whose slightest wish was law. It happened this way: When the Tsar was a boy he had a Swiss tutor. This tutor had been a great admirer of Rousseau and he had talked to his young pupil a great deal about the rights of man and coming of a new day when injustice and oppression should be things of the past. Alexander was very much impressed. But he had forgotten all these teachings when he met Napoleon. He was so flattered by the attentions of the great conqueror that he was ready to plan with him the rule of the world. But now that was all past. Napoleon was a lonely exile on the island of St. Helena. The Tsar had recently made a new friend, the Baroness Krudener. She was a very religious person. "At last," she said, "that black angel, Napoleon, has been overthrown and the time is at hand for the reign of the 'White Angel.'" This "White Angel," or "Napoleon of Peace," was to be no other than the Tsar himself for whom the world had long been waiting. The Tsar felt very much flattered to be talked about in this fashion. The dream began to take shape in his mind.

The class was encouraged to use the library. Reading lists were prepared for each unit by the librarian. The lists were selected with the idea of encouraging general reading in worthwhile books and of building up better pictures of the times which were being visualized. There was no thought of reference work except in very special cases.

Relation of the history to the geography content and method—Thus far it would appear that the idea of a unified course had been altogether overlooked in the organization. The historical content for this year, however, was set up in experimental form with a certain content drawn from geography constantly in mind. The work of this year implied a familiarity with the world as a unit, with the continents of Africa and Asia, and with the islands of the sea. It was expected that as the experiment proceeded appropriate exercises in geography of the type suggested in the concepts would be introduced from time to time. Some of these have been already suggested in the textual material prepared. The larger part of the material used, however, is drawn from the field of history as will be noted below in the general outline of the three junior high school years.

Materials from, and use of, newspapers and periodicals—There was also a body of material, naturally changing in character drawn from current happenings. The pupils were asked to look for pictures, maps, cartoons, and diagrams and to report what they saw in these, or what these meant to them.

Nature of appraisal made of specific subjects—The body of material which gradually took shape, as illustrated above, was ultimately brought together in tentative textual form with problem or exercise sheets to accompany the same. Each of the subjects involved in the one program has been appraised more or less separately. In the eighth year attention has been particularly directed to the content to be drawn from history. In many cases, however, the exercise actually tried out was a combined exercise or problem in which important geographical and historical elements were involved.

Content by Grades in the Junior High School

The general outline of the content for the junior high school grades follows:

The first stage setting (Grade VII) will be the one that gives a glimpse of the very beginnings of civilization. Starting with the civilization of the Nile Valley (illustrating valley or river control) we continue around the Mediterranean (illustrating as we proceed the control of the plain, oasis, the forest, etc.), across the ocean to the New World. At the same time we see the type of civilization that developed in other regions of the world—the great plain of Europe and Asia, the valleys of China, the tropical land of India, etc., (constantly emphasizing the geographic controls which these represent.)

Either at this point or with the third setting below, the work for the eighth grade would begin. The second setting gives a picture of the colonies founded by the nations of Europe and the feeling of rivalry that sprang up. With the establishment of colonies commerce began. This led to wars between the European countries and between England and her new world colonies. The closing act in this setting shows the end of colonial conquests and the birth of a new nation in this hemisphere. (In this unit of instruction ocean power or control is prominent.)

The third setting of the stage might be termed "the law of progress at work." Although there were wars—civil and commercial and political—yet there was a definite gradual progress in the affairs of the world. Finally, we see emerging some of the strong united nations of the world, although it took time to break down some of the false notions of freedom and autocracy. In all of this the geographical factors had a tremendous influence upon historical events.

The work closes with the setting which shows the dream as it is now being enacted. The various countries of the world have been brought into close contact through the many modern inventions. The United States has expanded and can take her place as one of the great World Powers. Again love of material possessions causes war. The nations of the world learn that no one can live for himself alone. It is a world community, with common interests and ideals.

From this world survey in grades 7-8 the child should have a concept: (1) of the beginnings, the spread, and the later growth of civilization; (2) he should have a concept of the part each country and its people have contributed; (3) he should see the countries united as a world community—closely tied together, with common ideals and interests. All this work should change his feelings and attitudes towards other races and nations, making him more sympathetic towards the various racial elements in his own community. He should be able to see just how the United States is taking its place as one of the working neighbors of this great community.

In the ninth grade, attention is directed to the economic governmental background of the child's own community and country—*its* place and *his* place in the present-day organization of the world. The work of this year is vocational in a large sense in enabling the boy or girl (1) to realize the part he is called upon to play; and (2) to direct his own course in harmony with his developing knowledge and his growing apperceptive powers.

In harmony with this world background attention in the ninth grade would be directed to the history and to the economic, social, and political relations of his own community (be it ever so small and humble) to the larger whole of which it is a part. The local history would be presented so as to awaken local pride by pointing out the accomplishments and traditions which have made his community what it is. This material would be organized so as to show him that the growth and development of the community industrially, politically, and socially have necessitated the creation and expansion of a multitude of social agencies, local, state-wide, nation-wide, and world-wide. It would place the community in its political, economic, and cultural relation to the state and nation and help the pupil find his own place in the countless activities going on about him. This purpose would not constitute the sole objective of the work of this year, but would form an important element in teaching the material prescribed.

This same quest for a content and a method has shaped the work in the tenth grade, the only other place in the six-year program where intensive study and experimentation have been possible.

The process of evolving on these bases a satisfactory unit program for the six school years has necessarily been a slow one. Some of the evidences of the results attained have already appeared.[1] These results furnish interesting evidence as to what children can do with some of this content and how far they can be led to appreciate certain relationships drawn from history when presented as a part of a unified program.

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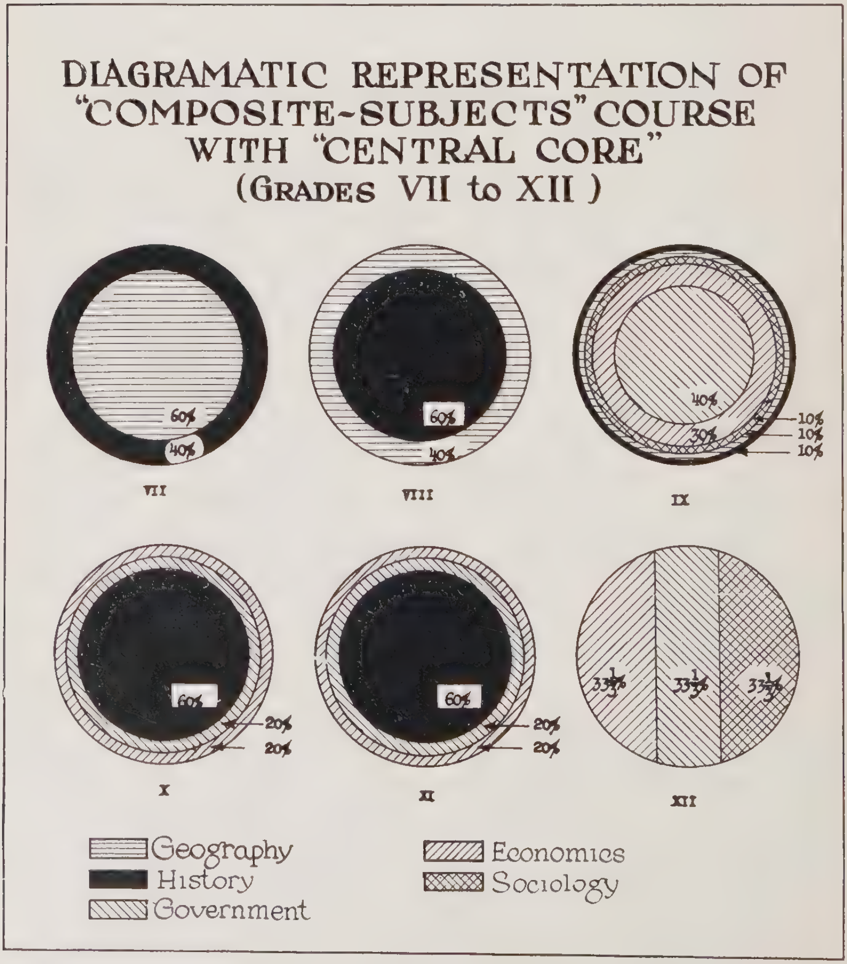
[1] See Knowlton, Daniel C. *Making History Graphic,* Scribner's New York, 1925.

Problem of integration—The idea of a six year unit program of the type which is being gradually evolved under experimental conditions at the Lincoln School might be represented in diagram form as in Chart VII. The core of the work in each grade, with the exception of that in the twelfth year, is represented by the inner circle; the other elements by the outlying space. Only the more important elements appear here. In grade seven it is geography, the other element being supplied by history. Grade nine represents a greater diversity in the elements which are present either in the form of content or of method or both.

In this research laboratory of ours we are surrounded by a number of phials. One is labelled history, another geography, and another economics,

CHART VII



and so on. As a worker in the laboratory we are drawing first from one, then from the other, the resulting mixture taking on essentially the form of the ingredient which is used in the greatest quantity. A chemical change does not necessarily follow. The result is a social study which is tinctured strongly with the element which is most predominant at that point.

Concentric circles perhaps do not adequately represent the "integration" process. In actual classroom procedure there might be a series of recitations in grade seven which had to do with a geography content and the problems peculiar thereto. These might be followed by a series in which history and its peculiar problems were involved. Again a single class period might be divided between these two fields as the situation seemed to demand. In the twelfth grade the separateness of the subjects appear to be most apparent as in the circle representing the allotment of materials to that year. It is in this year that some of the most difficult problems appear in the selection of subject matter and in the capitalization of each of these fields at its educational value.

The time allotment proposed is five periods a week for the year in each of the three junior high school grades, i. e., the equivalent of at least 250 minutes per week. The relative number of recitations devoted to geographical as distinct from historical or "civics" material in grade seven would probably be three and two, respectively; in the eighth grade the situation would probably be reversed; in grade nine, one and four or less.

In the senior high school the number of periods allotted to the social studies in each grade would be from four to five each week.

Additional Studies of the High School Cycle

In conclusion attention should be drawn to a series of studies appraising conditions in the social studies as they are now being presented in the secondary school which are appearing in the Historical Outlook.[1]

The Construction of a Program in Social Science for the High School[2]

Objectives—The basic objectives that have controlled the construction of the program in social science in the University of Chicago High School during the past eight years are as follows: First, the development in boys and girls of social attitudes and social behaviors; second, the inculcation in pupils of an understanding of the social environment in which they live, its character, its needs, and its problems. Such understanding, when combined with such attitudes and behavior, will, it is believed, result on the part of the pupils in an adjustment to and a control of the social environment to the end that the common welfare may be promoted. In a word the goal in view has been the development of intelligent, unselfish, right-minded citizens.

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[1] See particularly:

a. Knowlton, Daniel C., "Relation of Geography to the Social Studies in the Curriculum," *Historical Outlook,* Vol. XIII, No. 5, p. 154-158.

b. "Report of the Joint Commission on the Presentation of Social Studies in the Schools," *Historical Outlook,* Vol. XV, No. 1, p. 53-54.

c. Stone, Edna H., "Teaching the Social Studies in the 7th Grade," *Historical Outlook,* Vol. XVI, No. 6, p. 262.

d. Pierce, B. L., "The Social Studies in the 8th Grade," *Historical Outlook,* Vol. XVI, No. 7, p. 315.

e. Hill, Howard C., "Teaching of Civics in the Junior High School with Especial Reference to Work in the 9th Grade," *Historical Outlook,* Supplementary papers by other writers, Vol. XVII, No. 1, p. 7.

f. Reports of the Committee on History and Education for Citizenship. *Historical Outlook,* Vol. XII, p. 87-97; 119-142; 165-184; 208-218.

[2] This section prepared by Howard C. Hill, School of Education, University of Chicago. Space limitations required some revision of the original draft.

Expressed in more concrete terms, the objectives regarded as fundamental are as follows:

1. To convey an understanding of the nature of human society, especially in its aspects of association and control.

2. To establish a sense of evidence. This necessitates an appreciation of the nature of history and the way in which it is discovered and written. A sense of evidence involves a critical attitude toward what is read and heard. It implies a rejection of snap judgments and unsupported generalizations.

3. To cultivate a feeling of tolerance. This is an inevitable corollary of a demand for evidence. Tolerance is inherent in a genuine search for truth. It is shown by a desire to understand both sides of controversial questions. It is reflected in the expression of suspended judgments on social, political, and economic problems.

4. To provide an understanding of the present. This involves a realization of the unity of human experience. It rests upon an evolutionary concept of life. Such a conception does not necessarily imply either advance or progress in the sense of human betterment. It will, indeed, occasionally reveal social retrogression.

5. To create or stimulate a liking for social science. When realized, this will be manifested primarily in a voluntary reading and study of the subject.

6. To arouse desire and develop ability to contribute helpfully to social betterment.

As secondary or subsidiary objectives the following may be mentioned:

1. The inculcation of true patriotism
2. The interpretation of literature, painting, sculpture, and architecture
3. The illumination of newspapers and current periodicals

Courses in social science—In view of the many demands on the curriculum, four years seems to be the maximum allotment that can reasonably be expected at present for the social sciences. The problem then has been the apportionment of the time available for instructional purposes so as best to attain the ends described above.

After much experimentation, the social sciences in the University of Chicago High School are now organized in four courses, each continuing for a year. *Community Life*, a basic course required of all pupils, is a combination of social science and English, serving as an introduction to the study of society and to the field of worthwhile literature. *Survey of Civilization*, the work for second-year pupils, consists of a study of the outstanding civilizations and significant developments in occidental history, including within its scope human evolution from the earliest times to the latter part of the eighteenth century. *Modern History*, the work for the third year, is a combination of modern American and European history covering, approximately, the outstanding movements of the last century and a half, beginning with the Industrial Revolution and extending through the World War. *Modern Problems*, the work for the senior year, is a course in modern society in which emphasis is placed upon the political and economic principles that underlie present-day social environment with especial attention to the American state.

The first and the last of the four courses deal chiefly with the present, the second and third primarily with the past. Viewed as a whole, the arrangement provides a counter-chronological approach to the study of human life in its social relationships. The first course introduces boys and girls to the community life of today; in the second, stress is placed on the community life of the past; in the third, major attention is given to the larger problems of human association as they have revealed themselves in the outstanding developments of the last one hundred fifty years; in the fourth, the political and economic principles governing social interaction become the prime subject of consideration. From first to last stress is laid upon the basic objections explained above.

Guides used in selecting and organizing subject-matter—The determination of the courses in a social-science program is a matter of major importance, but the selection of the material which is to constitute the courses is of still greater consequence. Experimentation had been under way but a short time before two diverse standards appeared as guides for the selection of subject-matter. The first proceeded by the encyclopedic method, the second by the unitary plan, the one was governed by informational values, the other by interpretative worth.

In selecting the material to enter into *Community Life*, for example, there was a tendency, at first, to incorporate fact after fact and topic after topic in the course in order that "nothing important" should be omitted. Thus the course tended to become a mass of encyclopedic details and generalizations after the fashion prevailing in most textbooks. Fortunately, such an outcome was foreseen and the unitary plan for the selection of subject-matter was substituted.

Other difficulties developed in the arrangement of material, the choice of pedagogical devices, and the apportionment of time among the units in the course. To assist in the solution of such problems, guiding principles were formulated to serve as guides in the selection and organization of subject-matter. The following for the course in *Community Life* will serve as examples:[1]

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[1] For a discussion of the guiding principles see H. C. Hill, "Teaching of Civics in the Junior High School with Especial Reference to the Work of the Ninth Grade," *Historical Outlook*, XVII, No. 1 (January, 1926). The principles set forth are the joint work of Professor R. M. Tryon and the writer.

1. The units that will present the fundamental phases of community life—social, economic, and political—should form the content of the course.

2. Only units that have value to every pupil should be included.

3. So far as practicable units should be coordinate in kind, but not necessarily equal in rank.

4. Units should be selected and arranged so as to form a course that has unity, coherence, and development.

5. The available time should be divided among the units of the course in accordance with their relative values for teaching purposes.

6. The course should be planned so as to contain elements of progress within the subject; that is, topics, readings, problems, and exercises should be arranged so far as possible on an ascending scale of difficulty.

7. The material in each unit should be arranged so as to proceed from need or function, to machinery or agency, to personal responsibility or obligation, with emphasis constantly upon function and responsibility rather than upon machinery or agency.

8. The course should provide for the participation of pupils in civic activities and community chores of various and suitable kinds in order that civic habits and civic skills may be inculcated and established.

Interpretative rather than informational values sought—The difficulty in organizing material into teachable units possessing interpretative rather than mere informational value was especially pronounced in the two courses in history. Owing to the fact that these courses embraced within their scope a survey of mankind from the earliest times to the present, including both the history of Europe and the United States, the temptation toward a telescopic solution was especially strong. But the introduction of a new teaching technique, summarized below, contributed notably toward the wiser decision for a unitary organization.

The result may be illustrated by the course in *Survey of Civilization*. As the course now stands, the subject-matter is organized into the following large units, each requiring from three to five weeks of study: "Primitive Man and Human Beginnings;" "The Ancient Egyptians: Their Religion, Science, and Art;" "The Ancient Greeks: Enlighteners of a World;" "The Ancient Romans: Consolidators of a World;" "Feudal Europeans and the Crusades;" "The Renaissance and Exploration;" "The Protestant Revolution and Migration;" "Colonial Life and the American Revolution."

The material that enters into each unit is chosen for its interpretative value rather than for its informational worth. Details are included because they illuminate the unit, not because they are of merit in themselves. Attention is focused upon *understanding* rather than upon *recall*, upon *rationalization* rather than *memorization*.

An example may clarify this point. Early in the study of a unit pupils are supplied with mimeographed guidance sheets containing a list of the minimal essentials, the references in which suitable material may be found, and suggestions for voluntary enterprises. As the name indicates, the minimal essentials include the items and details the mastery of which is deemed essential for an adequate understanding of the unit. The character of such requirements and suggestions may be seen in the following guidance material from the second unit in the course in *Survey of Civilization;* owing to limitations in space the references are omitted.

The Ancient Egyptians: Their Religion, Science and Art

1. How Egypt is the gift of the Nile: description of the Nile river and valley, comparison with other important rivers and valleys; the overflowing of the banks of the Nile and irrigation; fertility of the soil; means of transportation and trade; development of surplus of wealth and opportunities for progress; political unity.
2. Stages in Egyptian development: stone age, age of bronze, pyramid age; feudal age; the empire, decline.
3. How the ancient Egyptians secured a living: food—agriculture, domestication of animals; clothing—growing, spinning, and weaving of flax and wool; shelter—use of reeds, straw, wood bricks, and stone in huts, houses, and palaces; tools and utensils—stone, copper, bronze, iron, gold, and glass; the crafts, domestic trade and foreign commerce.
4. What the ancient Egyptians believed about the gods and the future life: worship of nature—chief deities; monotheism; ideas about the future life; preservation of bodies—embalmment, tombs.
5. The arts and sciences of the ancient Egyptians: development of writing—pictorial, phonetic, alphabet; writing materials; architecture—pyramids, temples, palaces; sculpture; decorative arts; sciences—mathematics, astronomy, surveying, chemistry; our debt to the ancient Egyptians.
6. Why civilization originated in warm river valleys: examples—Egypt, Babylonia, India; reasons—fertility of the soil, mildness of climate, frequency of contact, tendency to unification.

Illustrative Voluntary Enterprises

1. The Great Pyramid of Gizeh.
2. Social classes in ancient Egypt.
3. The tomb of Tutankhamen.
4. Engineering feats of the ancient Egyptians.
5. Babylonian art.
6. Conquests of the Assyrians.
7. Trade and commerce of the Phœnicians.
8. The civilization of ancient Crete.
9. How ancient Egyptian writing was deciphered.

Teaching technique—Teaching procedure does not provide for daily lesson assignments, required homework, percentile grades, or daily recitations. Classrooms are regarded as laboratories, or workshops. They are equipped with charts, maps, bulletin boards, filing cases, work tables, and well-filled book shelves. Class periods are utilized primarily for individual study, personal consultation, and group conference. During the class hour pupils are engaged as a rule in making outlines, preparing summaries, drawing maps, constructing graphs, studying textbooks, reading supplementary material, consulting reference works, or conferring with the teacher.

The teaching cycle on each unit includes five steps, namely, exploration, presentation, assimilation, organization, and recitation. In exploration the teacher questions or tests the pupils, by word of mouth or written exercise, to discover the extent of their knowledge and understanding of the new unit; by this means he learns the foundation on which he must build and has an opportunity to awaken an interest in the subject to be studied. In presentation the teacher gives a bird's-eye view of the unit in a brief talk, thus enabling the pupils to tackle their work in an intelligent and expeditious manner. In assimilation the active study of the unit begins; during the two or three weeks devoted to assimilation the pupils are engaged in the activities described in the preceding paragraph while the teacher is occupied in directing the work, offering suggestions, rendering assistance, and calling attention to misconceptions and mistakes. In organization each member of the class is required to prepare, without the help of notes or books, a well-ordered, systematic outline of the entire unit. In recitation, the last step in instruction, the pupils present to the class in oral or written form a connected exposition of the unit as a whole or of some particular phase of the unit.

Teaching for mastery—The teaching procedure outlined above is known as the mastery technique. The name is derived from the constant effort that is made to see that every pupil masters whatever is taught. From beginning to end instruction is governed by the following formula: teach, test, diagnose, teach again. Accordingly, each step in the process, with the exception of exploration, is accompanied by tests designed to discover whether the objective in view has been attained. If a negative result occurs, the causes are diagnosed and, guided by the revelations of the test, reteaching ensues. Thus, the process continues until the evidence indicates that each pupil has mastered the unit.

Testing for mastery—Various kinds of tests are used to discover whether mastery has taken place. In presentation the essay test is generally employed. Pupils are expected to give in writing in a clear, concise manner their understanding of the unit. If the papers prove to be ambiguous, incoherent, or incorrect, the unit is again presented to the pupils concerned with such modifications as the test showed were desirable.

Most of the testing occurs during assimilation; for organization and recitations are regarded primarily as teaching not testing processes. True-false, completion, multiple choice, essay, continuity, and understanding tests are all employed. For the revelation of comprehension or rationalization, as distinguished from information or memorization, tests in understanding have proved most helpful.

Two abbreviated examples of the last-mentioned tests are given below. The first is designed to reveal whether connections or relationships between the past and present have been understood; the second is to discover whether the significance of details in the minimal essentials have been apprehended. Both tests are from the course in *Modern History.*

The Past and the Present

Questions on the Industrial Revolution—How do events or conditions connected with the Industrial Revolution explain, in part, the following:

1. In 1790 three percent of the population of the United States dwelt in cities; in 1920 over fifty percent dwelt in cities.

2. In 1790 American cotton sold for 29 cents a pound and had been selling at that high price for decades; for many years prior to 1914 American cotton had been selling for from 4 to 8 cents a pound.

3. In 1790 a good shoemaker could make two pairs of shoes a day; a modern workman can turn out 500 pairs a day.

4. In 1763 there was no democracy in all Europe; in 1914 all the countries of Europe, except five, were to a large extent democratic.

5. In 1750 southern England contained a large population, while northern England was sparsely settled; in 1920 northern England was as heavily populated as southern England.

6. In 1760 strikes were practically unknown; today they are very common occurrences.

7. During the first half of the eighteenth century there was very little unemployment; during the last half of the nineteenth century unemployment was a common occurrence.

8. Before the Industrial Revolution each locality was largely self-sufficing; since the Industrial Revolution localities are very interdependent.

The French Revolution

Put a cross (x) in front of the best answer to each question. Be able to give reasons for your selection.

1. What was the French Revolution?

a. It was a period of social and political reform during which many serious abuses were remedied.

b. It was a period of mob violence during which many lives were lost and much property destroyed.

c. It was a period of experimentation in which every one was given an equal amount of property.

d. It was a period of warfare during which most of the civilized countries were involved in conflict.

2. Why did the Revolution begin in France rather than in some other country?

a. Because the social and political abuses in France were worse than in any other country in Europe.

b. Because the French people understood social and political conditions better than did the people of any other European country.

c. Because the French people are more temperamental and excitable than are the people of any other European country.

3. What was the most significant result of the Napoleonic Wars?

a. The establishment of Napoleon as the greatest military genius of modern times.

b. The scattering of the ideas of the French Revolution throughout Europe.

c. The destruction of thousands of lives and millions of dollars worth of property.

d. The rise of Great Britain to the first place among the nations of Europe.

Tests like the foregoing have proved valuable as means for discovering pupil comprehension, have aided in the selection of the material comprising the minimal essentials and have helped to focus instruction upon the significant aspects of the various units. Thus, they have been instrumental in the attainment of the basic intellectual objectives that have governed the construction of the social-science program described.

Objectives of Social Studies in the Elementary Grades[1]

This section is based upon an examination of all available lists of objectives for the social studies in the elementary grades. Over a thousand different objectives have been considered. The subsequent material seeks to give a picture of the present situation with respect to the development of objectives for social studies in the elementary grades.

Preliminary Considerations

What is the meaning of the social studies?—There is no general agreement on this question so far as available objectives indicate. The following working definition is suggested: the social studies are those which should help the child to get along with people.

Scope of social studies—Here, again, little agreement exists. Most courses draw heavily on geography, history and civics; nature study, social ethics, economic life and other subjects sometimes are included.

What is meant by unification?—There are three tendencies which indicate that unification was in the mind of the curriculum makers. First, certain courses of study disregarded the formal school subjects and presented a new course of study based entirely upon predetermined social objectives or values. Second, certain courses of study which appear under the title of a traditional subject, in reality, are a unification of diverse materials from several fields. Third, many courses of study adopt a name which suggests the unification of diverse materials into a course in social studies but proceed to present courses in the formal subjects of history, geography, and civics. This, obviously, is not unification at all.

What is an objective?—An educational objective is a goal, useful in life, to be achieved through education. It is what the child should know or be able to do as a result of training. The term *objective* is most commonly used in the literature of curriculum-making and should be universally adopted in preference to the terms *aim* and *outcome*.

Should objectives be stated?—Many courses do not recognize the need for stating specific useful goals. In every course specific objectives, soundly and accurately determined, should immediately precede the teaching units which they concern. The relation between the objective and activity should be direct and definite.

Objectives—general and specific—There is a place for general objectives which show the direction of instruction in specific grades or whole courses. Specific objectives should define with exactness the scope of each teaching unit, and should be sufficiently specific to make it possible to measure progress toward their attainment.

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[1] This section prepared by Henry Harap, Cleveland School of Education, Cleveland, Ohio. Space limitation made it necessary to shorten the original draft.

Children's or teachers' goals?—The best practice is to express the objectives in terms of the child's goal. This centers attention on the life purpose of the activity, and anticipates a definite result from a given unit of instruction.

Some objectives are organized under the headings of knowledge, skills, attitudes, and ideals. There is little advantage to this classification since it does not function in the teaching or learning procedure. It encourages the inclusion of objectives too general to eventuate in activities. For example, *to develop a desire to perform personal service for others* gives us no idea of the nature of the activity to be engaged in.

Should objectives or activities be formulated first?—Obviously, the objectives should be determined first. Then teaching materials and activities should be selected that promise fulfillment of the objectives.

How were existing objectives formulated?—Few public school courses of study accurately describe how the objectives were obtained. Too often there is little evidence of a careful technique.

The Upton-Chassell citizenship scale which is easily translatable into objectives is based upon the observation of the social conduct of children. The objectives in the *Conduct Curriculum* of the Horace Mann School are based upon an inventory of the activities of children. The objectives proposed by Bobbitt in *How to Make a Curriculum* are based upon the opinion of teachers of experience. The objectives proposed by Harap in the *Education of the Consumer* are based upon the analysis of the habits of living of people. The topics determined by Washburne were based upon their occurrence in periodicals. The objectives of the Detroit Course of Study were determined by an analysis of social needs but the special technique of the analysis is not given.

Use of studies of the occurrence of places and names—To employ the results of studies concerning the occurrence and identity of certain persons, places and events, it is merely necessary to classify them by grades—assigning a certain number to each grade. For detailed determination of teaching units, this is insufficient, however. Napoleon may be an important name—but what is the objective—to know that he was a military hero, that he postponed the establishment of a republic, or that he encouraged higher education? The results of curriculum investigations should be stated in terms of specific objectives pointing toward specific school activities.

Scissors and paste-pot—Courses of study should observe the standards recognized in other educational literature. Footnotes should indicate the source of material used. When several courses of study show the same tendency, it should be possible to know whether this tendency is based on one or several investigations. It should be possible to apply the same tests of value to courses of study that are applied to other educational literature.[1]

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[1] Also see: Legitimate uses of course of study bulletins. *Research Bulletin of the National Education Association*, September and November, 1925. National Education Association, 1201 16th Street N. W., Washington, D. C.

Criticism of Available Objectives

This discussion attempts to discover the present tendency as to *objectives*, not to evaluate courses as a whole. These questions may well be raised in analyzing existing objectives:

1. How does this course of study define the social studies?
2. What is the scope of the social studies? What conventional subjects are definitely included?
3. How many objectives are given?
4. In what form are the objectives expressed?
5. Are the objectives expressed in terms of the pupil's or teacher's purposes?
6. Are the objectives stated with sufficient definiteness to indicate the scope of the activity which they anticipate?
7. What term is used to signify an objective?
8. How are the objectives organized? by grades? by topics? by psychological headings?
9. Were the objectives determined by quantitative investigation? What is the nature of this investigation?
10. Are the objectives based chiefly on child activities?
11. Are the objectives based chiefly on social needs?
12. Are the objectives stated separately or immediately before activities?
13. Do the objectives seem to be formulated before or after the activities?

Illustrative Lists of Objectives

Upton and Chassell[1] in a scale for measuring good citizenship list 200 habits and attitudes which are essentially the objectives of good citizenship. Seventy judges rate their relative importance. Some of the objectives apply to all subjects alike. Their list is important from the point of view of the social conduct of the child.

Bobbitt lists about twenty-five objectives which are useful as suggestive material in beginning an investigation to determine objectives in social studies.[2]

Harap determines objectives by a careful analysis of economic life. They concern such topics as food, clothing, shelter and fuel. They are not all applicable to the elementary grades, but some are of value in view of the tendency to emphasize these topics in the early grades.

Agnes Burke has listed objectives and activities in parallel columns under the heading of desirable changes in thought, feeling and conduct.[3] These are based upon an inventory of specific habits young children should form, agreed upon by several hundred teachers in kindergarten—primary education. These objectives may well contribute in the formulation of a final list.

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[1] Upton, S. M. and Chassell, C. F. *A Scale for Measuring the Importance of Habits of* [illegible]

[2] Bobbitt, Franklin. *How to Make a Curriculum.* Boston, Houghton Mifflin Co. 1924.

[3] Burke, Agnes and others. *A Conduct Curriculum for Kindergarten and First Grade.* New York, [illegible]

The Cleveland Course of Study in Geography lists several general objectives for each grade.[1] In grades four to six specific grade objectives are given immediately before the teaching unit. The selection and organization of some ninety objectives were made by a committee in cooperation with many teachers.

The Elizabeth City County School Board course lists ninety-five objectives in geography and fifty-two in history.[2] The objectives are given under the title of outcomes and suggest a list of results to be expected from teaching the particular materials of the course. The outcomes are given by grades under the headings of ability, knowledge, attitude, and appreciation. The objectives are stated with sufficient definiteness to suggest the activities necessary to realize them.

The Litchfield Course of Study, in mimeographed form, includes the kindergarten. The objectives are grouped under topics and not by grades. There are sixty-nine objectives organized as follows: knowledge, (20); permanent interests, (4); attitudes, (23); ideals, (7); and powers, (11). They are general in nature and do not suggest the nature or the scope of the teaching material. Geographic, historic, and civic materials are treated separately.

The Connecticut State Course lists objectives under the title of specific aims by grades and by subjects.[3] There are thirty-six general objectives for the six grades.

The Detroit Course in Social Science gives a list of objectives for each grade.[4] There is a genuine attempt to unify the course of study. In no grade are the formal social subjects separated for teaching purposes. There is no statement to show what technique was used to determine the objectives. In this course of study as in several others the objectives and activities are given in two separate lists. The relationship between the activity and the objective is not always as clear as is desirable. This difficulty could be overcome by placing the objective immediately before the activity which is supposed to result in its attainment.

Bonser and Mossman[5] propose a set of over three hundred objectives under the title of industrial arts which, following present tendencies in classification, might be called social studies. Some of this material was designated *social and industrial studies* by Bonser in the Speyer School Curriculum. Three hundred and more objectives are listed and systematically organized under major headings for each grade from one to six. The major topics which recur in each grade are food studies, clothing studies, shelter studies, studies of utensils, studies of records, and studies of tools and machines. These objectives have had large influence in the elementary schools. They represent some of the best material now available for any program of curriculum making in the social studies. They need to be supplemented by objectives which will satisfy the demands of those who expect more historical, geographic, and civic content.

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[1] See illustrations given in this section pages 336 to 346.

[2] *Geography, History.* Elizabeth City County School Board, Hampton, Va.

[3] *Course of Study in Social Studies,* Connecticut State Department of Education, Hartford, Conn. 1924.

[4] *Detroit Course of Study in Social Science for Grades I to VI,* Board of Education, Detroit, Mich. 1923.

[5] Bonser, F. G., and Mossman, L. C. *Industrial Arts in the Elementary Grades.* New York. Macmillan. 1923.

Looking to the Future

A sufficient number of problems has been suggested to indicate the need for cooperative study to bring about better agreement as to the objectives of the social studies. The most important next step is to undertake an extensive and thorough investigation to determine the objectives of the social studies in the elementary grades. The form which such an investigation should take requires much thought. It involves the discovery of a technique for extracting the best from the present available objectives and the discovery of a technique to determine in a most comprehensive manner additional objectives.

The investigation to determine additional objectives should turn on an analysis of children's interests and activities. The work of the kindergarten and elementary grades should be dominated by child conduct. However, this is no reason why the choice of objectives should not be based upon usefulness. It should not exclude certain practical activities in which the child engages in the home. Nor does it exclude objectives which relate to adult experience. Much which affects the child also affects the adult. For example, the department store which is conducted exclusively by adults touches the life of the city child intimately and offers material for study and observation. Nor is it necessary to exclude certain important objectives ascertained by an analysis of social needs. A selection from such objectives should, however, be made by thoughtful teachers of experience who can judge their appropriateness for children or the possibility of adapting them to the interests and capacities of children.[1]

Stated in broad terms, the technique of determining objectives of the social studies in the elementary grades should consist of listing the social activities of children by age, an evaluation of these activities according to certain criteria, and a restatement of the accepted activities in terms of objectives.

The present available objectives of the social studies in the elementary grades are not adequate. There is too much difference of opinion as to the importance, meaning, use, and method of determining objectives to make it possible to draw conclusions. There is need for extensive investigation which should eventually crystallize into a preponderance of opinion in a given direction and which should develop an approved technique of determining objectives. The present objectives can only be regarded as experimental beginnings. A premature crystallization of material would be of little value because it would have to be scrapped. We have hardly broken the ground for curriculum making in the social studies for the elementary grades.

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[1] Also see: Educational Theories Affecting Curriculum Building. *Research Bulletin of the National Education Association*, September and November, 1925, pages 114-118. National Education Association, 1201 Sixteenth Street N. W., Washington, D. C.

CHAPTER XIV

CHARACTER EDUCATION

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Mrs. Susan M. Dorsey, Superintendent of Schools, Los Angeles, California.
Frances I. Giddings, University of California Southern Branch, Los Angeles, California.
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CHARACTER TRAINING is the public school's greatest and most difficult accomplishment. How is it done? By what means do our schools establish right habits, attitudes, and ideals? What are the best current practices? To answer these questions is the purpose of this report. It is briefly outlined as follows:

I. Introduction
II. What the Public Schools Are Doing to Promote Character Education
    A. Survey of efforts for character development in 229 school systems
    B. Review of courses of study in character education
    C. Character education through the regular school subjects
    D. Ways of teaching the elementary school subjects so that they contribute to character development
    E. Classroom procedure in relation to character development
    F. Character education in the kindergarten
    G. Character development through extra-curricular activities
III. Moral Codes and Character Education Plans
IV. Research in Moral, Civic, and Religious Education at the State University of Iowa
V. Rating Plans as a Means to Character Education
VI. The Means and Meaning of Character Education
VII. Bibliography

Introduction

Why a Committee on Character Education—The Commission on the Curriculum in its appointment of a Character Education Committee stressed these three points:

1. Training in right conduct is one of the chief objectives of the public school.

2. A survey should be made to determine what is being done in the schools of the United States to further the development of ethical character in pupils. Illustrations of the best current practices should be pointed out.

3. Following the survey of current practices relative to character training, the committee should offer suggestions as to how the efforts of the schools to provide character education may be improved.

The moral situation. The moral situation has received much attention in the public press and current magazines. The public school is forced to assume a larger and larger share in the moral development of youth. Recently on the same day the President of the United States and the House of Bishops of the Protestant Episcopal Church ascribed the increase in juvenile crime to inadequate home training. The President to the International Convention of the Young Men's Christian Association recently said:

> Too many people are neglecting the real well-being of their children, shifting the responsibility for their actions and turning over supervision of their discipline and conduct to the juvenile courts. It is stated on high authority that a very large proportion of the outcasts and criminals come from the ranks of those who lost the advantages of normal parental control in their youth. They are the refugees from broken homes who were denied the necessary benefits of parental love and direction. . . .

Said the Bishops in their Pastoral Letter:

> We see a weakening of the ties and a lowering of the standards of home life, due to lack of proper parental control and to the absence from homes of definite religious influence. We see a widespread revolt against the Christian ideals of morality and purity expressed in much of our literature, advocated openly by some of those whose position gives them hearing and influence, hailed by many as the advent of a fuller freedom and a larger self-expression, and, in correspondence with this, the appalling and still increasing growth among us of divorce. . . . Can we fail to see the connection between this situation and the spirit of lawlessness, the startling increase in crime, and especially the increase in the number of youthful criminals, which is now challenging our attention?

Mrs. Susan M. Dorsey, superintendent of schools, Los Angeles, California, recently in discussing with the city and county superintendents of California the present moral situation and the reasons back of it, raised these two questions:

> Is this problem more pressing than formerly? If so, why; and, if it *is* more pressing, what is the responsibility of educators and how shall they meet that responsibility? If youth today are too irresponsible and pleasure loving, too indifferent to obligation and duty, why is this the case?

In answer to these questions, Mrs. Dorsey said:

> Compare our world with that of thirty-five years ago, the generation in which the mature men and women of our time were boys and girls. That was an America which had no automobiles, no motion pictures, no wireless telegraph, no radio, no aeroplanes, few telephones, and few electrical appliances, even of the electric light variety.
>
> Commercial enterprise in our day has not been slow for gainful ends to capitalize to the full the control over nature resulting from scientific discoveries. We would not delay civilization even for one decade, but all these inventions that contribute to our convenience and especially to our pleasure have created a new

> world full of peril to the young. The telephone makes contacts in the breath of a moment; the automobile breaks home contacts with equal speed; the radio brings jazz into the home and the motion picture visualizes vice.
>
> Literature is too narrowly occupied with the exploitation of sex emotions and problems. . . . Drama and the dance are no better; they are too monotonously artificial, too devoid of beauty and real meaning . . .
>
> The eight hour law, a thing thoroughly humane and beneficent in itself, has brought to millions an amount of leisure the world has never known. . . . Coincident with leisure comes the wealth of the world dropped into the lap of America. . . . Leisure and wealth, what yoke-fellows for world progress! But leisure and wealth for those who do not know how to spend either wisely, what yoke-fellows for dissipation!

The present moral situation according to Superintendent Dorsey is making the problem of character education more pressing than formerly. It is her opinion that, while the school has a heavy responsibilty in the matter of character education, the problem in the last analysis is totally society's problem. It must bring all of its constructive forces to bear upon it.

The public schools and character education—An inquiry covering eight points was sent to the three hundred cities enrolled in the Cooperative Plan of Curriculum Revision. The returns from this inquiry are summarized on pages 383 to 390. These together with courses of study and other material furnished by many schools, enabled the committee to present in this report certain typical practices relative to character education. The effort has been to select from all the material, the best things which the schools throughout the country are doing. The committee did not seek to produce a course of study in character education; rather it sought to bring together evidences of the best current practices in particular schools.

These comments may be made as a result of impressions which members of the committee received from working over a wealth of material:

1. Throughout the country there is evidence that the schools are, according to their best light, promoting character development in children. In many cases, the efforts are seemingly feverish, anxious, and even frantic in character.

2. It is impossible to discover any body of settled convictions as to the experiences and subject-matter which should be productive in large ways of character results.

3. There is little evidence of carefully thought out, well-tested techniques of procedure which may be employed in securing character results. In a subject such as arithmetic, it is rather definitely known at this time what should be taught and by what procedures satisfactory results may be secured. Similar statements may be made of spelling and other subjects. There is no such situation in the matter of the materials or procedures in the field of character education.

4. The best results in character education are being secured in the classrooms through the relationships existing between children, and children and teacher, and through the procedures employed in the educative process.

5. Very high value in character training should undoubtedly be assigned to the opportunities provided students to participate in the activities of the school which they attend, and in thinking about and taking responsibility for the improvement of the school as a place of living and working.

It was impossible to use all the material which came in. It is easily possible that errors were made in the effort to select the best illustrative material. The committee is grateful for the immediate and hearty response which it had from the cooperating cities. It regrets that some fifty returns were not received in time to be included in the tabulations and findings.[1]

Suggestions for improving character education efforts of public schools—After reviewing current practices relative to character education the committee makes these suggestions:

1. There is great need that teachers and supervisors throughout the country should study the best things which are going on at this time to promote character education. This will include the courses of study which are now available and the various plans which have been proposed.

2. This program of study and understanding should include the parents of school children. They have a large share of responsibility in this matter and ways of enabling them to understand what it is and how they may carry it satisfactorily must be worked out cooperatively between the school and the home.

3. The great need is for extended, well-controlled, scientific investigations in the field of character, with the object of determining its elements and of finding those materials, experiences and procedures which may confidently be expected to promote character improvement. Fortunately a few universities are making provision for such studies and investigations, notably Teachers College, Columbia University, the School of Education of Chicago University, and the School of Education of the University of Iowa.

4. The National Education Association should lend all possible aid and encouragement to every fundamental effort to promote scientific attack upon the problem of character education. A study of the Association's programs shows that some attention to this topic has been given in almost every program since 1860. During the past five years the National Education Association has had a special Committee on Character Education. This Committee is just completing a preliminary report which is to be published by the United States Bureau of Education.

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[1] The general interest in this subject is indicated by the unusual return of the questionnaires sent out. Eighty-one percent of 300 cities addressed replied to the questionnaire.

What the Schools of the United States Are Doing to Promote Character Education

Survey of efforts for character development in two hundred and twenty-nine school systems[1]—It was felt by the Committee on Character Education that some effort should be made to gather information as to efforts under way, relative to character development in each of the three hundred school systems enrolled in the Cooperative Plan of Curriculum Revision. The quantitative statements offered and the conclusions drawn in this section of the report are based upon returns from 229 questionnaires received in time for tabulation.

The questionnaire included these eight items:

1. Provision or non-provision of a definite period in the daily school program for character training in the various grades of the elementary, junior high and senior high schools.
2. Use of a printed character education course.
3. Listing of subjects in the courses of study in which suggestions are made as to how character education may be secured.
4. Days per week when opening exercise period is used with the object of promoting character development.
5. Suggestions as to ways in which character education may be furthered by the recitation.
6. Suggestions as to ways in which character education may be furthered by classroom relations outside the recitation.
7. Suggestions as to ways in which character education may be furthered by the life of the school as a whole.
8. Enumeration of specific school activities which are encouraged, and which have character building values.

The data gathered from these questionnaires and the conclusions based upon them are presented with a full knowledge of the limitations of the questionnaire method, the form of questionnaire used, the limited number of cases represented, and the difficulty of interpretation due to the subjective nature of some of the replies. Despite the limitations, it seems justifiable to base some general conclusions upon the data at hand, with respect to practice and opinion in certain matters of character education.

Definite character education activities—The questionnaires showed that:

1. The schools of the country are giving universal and definite attention to the development of good character in the children entrusted to their care. Practically every school system replying reported definite character education activities.
2. Replies to the questionnaire showed some confusion and lack of clear knowledge as how best to go about the problem of character development.

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[1] Major responsibility for tabulating questionnaire returns and for interpreting the data in this section was carried by Walter E. Morgan, principal, Washington School, Berkeley, California.

This was further emphasized by the extreme diversity of practice in different school systems. The majority of endeavors seems to be directed toward the utilization of regular curricular and extra-curricular activities in such ways as to develop desirable habits and ideals.

3. Twenty percent of the two hundred twenty-nine school systems reporting use special character education materials, such as the various codes and plans, special character education courses of study, or rating devices; twenty percent report definite organization for character education in the form of programmed periods; while sixty-five percent report some use of the opening exercise period for character education purposes.

4. The report of actual practice and the suggestions made as to ways for securing character education results, both are indicative of the fact that character education is a result of the various activities of the classroom and of the school as a whole.

Definite time allotted for character education—Of the 565 individual periods reported as programmed daily for character education, 373 or 66 percent were reported for the grades, kindergarten to sixth inclusive. In the seventh, eighth and ninth grades, 135 or nearly 24 percent were reported. The balance, 57 or 10 percent are in the senior high school grades. Some idea of the diverse nature of the activities engaged in during the daily period programmed for character education may be had from the following list of activities which were among those reported: Home room period, reported by three school systems for all grades; daily devotional services, reported by one school system for grades 1-6; daily advisory period, appreciation of art, music, reading and language, and school city period were each reported once for all grades.

Many school systems reported special periods each week devoted to character education. The programs included Bible study, week-day religious instruction, assemblies and club activities.

Uses made of opening exercise period for character education purposes—Out of two hundred twenty-nine school systems, one hundred fifty report the use of the opening exercise period for character development. Of this number, 85 use it for this purpose five days a week. The major tendency in the administration of the opening exercise period is to make certain suggestions to the teacher as to means of securing character development, and then allow him a certain amount of initiative in the development of activities and methods. Among the activities reported were these: Bible reading, religious instruction, assemblies, talks to pupils by teacher or invited speakers, humane education, stories, safety and scout work.

Judging from the few comments made respecting the activities of the opening exercise period and from the activities and methods suggested for securing character education results, it seems fair to infer that character education is but infrequently planned, as such, for the opening exercise period. Rather does it seem probable that the activities engaged in are assumed by many to have inherent character education values, and thus the period is reported as "used with the object of promoting character development."

Use of special courses in character education—A total of nineteen school systems or approximately eight percent of those returning the questionnaire report the use of a printed course of study in character education. Six report special courses of study in preparation. Eight report the use of character rating on pupils' report cards. Special materials and devices are also used in a number of school systems.

These figures evidence a tendency, though not a marked one, to use prepared materials and to provide for some definite scheme of character education through a special course of study.

As far as can be ascertained from the questionnaires, there seems to be no widespread tendency to adopt the plans and codes thus far developed. Only four are reported in use, and the greatest frequency reported is three.

A total of ninety-eight references were made in the questionnaire returns to courses of study in various subjects, which contained suggestions as to ways for securing character education results. Over thirty-six percent of these references were to courses in history, civics, and Americanization. English and social studies came next in order of frequency. This seems to indicate that character education is largely thought of as concerned with social relations.[1]

Classroom methods most conducive for securing character education results—It is impossible to classify or tabulate the various methods suggested in the questionnaire returns whereby character education outcomes are secured. A description can be given of the methods suggested, and a few generalizations can be made. The methods suggested vary so greatly, however, and cover so wide a range that it would be hopeless to attempt a tabulation of them.

Indirect and direct methods of character education are about equally stressed. The greatest unanimity of opinion is found in the recommendation that provision should be made for the actual practice of ethical, moral, and social ideals in life situations. A large number of those returning the questionnaires emphasize the necessity for stressing the ethical lessons in all subjects and classroom activities. A considerable number urge training in the specific formation of desirable habits. About equal numbers recommend that character education should be accomplished indirectly and incidentally through the subject-matter.

Socialized methods of instruction, proper supervision of all pupil activities and relations, the development of adequate concepts of ideals, and the organization of the school and the class for purposes of character education, receive about the same emphasis. Considerable reference is made, directly or indirectly, to the necessity for the establishment of definite standards of conduct and of character, both in the school as a whole and in the classroom.[2]

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[1] For a brief discussion of *Character Education through the Regular School Subjects* see pages 404 to 406.

[2] This topic is further developed on pages 407 to 421.

On the other hand, the proper development of each pupil as an individual, the allowance of pupil choice, initiative and freedom, and the undesirability of over-stressing specific standards, receive about as much emphasis as do any of the other suggestions.

The need for definite knowledge concerning the actual methods whereby character development may best be furthered is one of the chief findings of this inquiry.

Some twenty subjects and topics of the curriculum are suggested as "ways of obtaining character education results." Biography ranks first, with history in second place. "All subjects" receive third greatest stress. Literature, English and civics are the only other subjects receiving more than one mention.

Attitudes and relationships suggested as ways of securing character education results—The influence of the teacher through proper example, character, and attitude is named most frequently as the chief determinant in the development of good character in pupils. The life of the school as a whole with its relationships, organization, standards, spirit, and atmosphere ranks next in order of frequency of mention. Relations between pupils and teachers have the third place in importance as to ways of securing character education results; and pupil relations, fourth place.

Suggestions of attitudes and relations as ways of securing character education results were mentioned a total of 107 times on the 229 questionnaires returned; 25 times under the head of the classroom recitation; 36 times in connection with other classroom relations; and 46 times in the life of the school as a whole. It is apparent that, at least in the opinion of those returning the questionnaires, classroom and school attitudes and relations are of considerable importance in the promotion of character education.

Pupil activities suggested as ways of securing character education results and reported as encouraged activities of the school—Pupil activities suggested as ways of securing character education results in the recitation, in other classroom relations, and in the life of the school as a whole, have been classified so far as possible under nine heads. Those not lending themselves readily to classification are reported as "Unclassified." Table 11 lists these activities in order of total frequency of mention, giving the rank, frequency of mention, and percent of total mention for total suggestion, and for suggestion under classroom recitation, other classroom relations, and in the life of the school as a whole.

In general, there is little variation in rank between groups of activities listed in Table 11. The single considerable exception to this trend is in the case of activities listed in the recitation. In this case, those activities involving individual pupil responsibility rank first, as against fourth in both total frequency and in other classroom relations, and as against seventh in the life of the school as a whole.

In Table 11, column 6, the few activities suggested for securing character education in the classroom recitation renders unsafe the drawing of any general conclusions. Yet the facts presented seem to indicate a greater

TABLE 11—PUPIL ACTIVITIES SUGGESTED AS WAYS OF SECURING CHARACTER EDUCATION RESULTS

Activities	Totals			In Classroom Recitation			In Other Classroom Relations			In Life of School as Whole		
	Rank	Fre-quency	Percent of Total	Rank	Fre-quency	Percent of Total	Rank	Fre-quency	Percent of Total	Rank	Fre-quency	Percent of Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*6*	*10*	*11*	*12*	*13*
Physical Education Activities	1	47	21.9	2	7	26.9	2	14	16.7	1	26	25.0
School Control Activities	2	41	19.2	....	....	....	1	17	20.2	2	24	23.1
Club Activities	3	25	11.7	....	....	....	3	11	13.1	3	14	13.5
Activities Involving Individual Pupil Responsibility	4	23	10.7	1	12	46.2	4	8	9.5	7	3	2.9
Assembly Activities	5	13	6.1	....	....	....	6.5	3	3.6	4	10	9.6
Social Activities	6	12	5.6	....	....	....	5	4	4.8	5	8	7.7
Social Welfare Activities	7	8	3.7	....	....	....	6.5	3	3.6	6	5	4.8
Forensic Activities	8.5	1	.5	....	....	....	....	....	....	8	1	0.9
Journalistic Activities	8.5	1	.5	....	....	....	8	1	1.2	....	....	....
Unclassified Activities	..	43	20.1	....	7	26.9	....	23	27.3	....	13	12.5
Totals	....	214	100.0	....	26	100.0	....	84	100.0	....	104	100.0

Read Table 11 as follows: Physical education activities rank first among the total pupil activities suggested as ways of securing character education results. Out of a total of 214 suggestions, physical education activities were mentioned 47 times (or 21.9 per cent of the total 214 suggestions); 7 times in connection with "classroom recitation;" 14 times in connection with "other classroom relations;" and 26 times in connection with the "life of school as whole."

Physical education activities included all athletics, playground activities, play, physical education, and gymnastics.

"School control activities" include: student councils, student organization, student government, cooperation in management of school room, student help in care of buildings and grounds student traffic officers, etc. This group of activities ranks second among the total 214 suggestions as to pupil activities which offer ways of securing character development. "School control activities" were not mentioned as ways of character development in "classroom recitation."

In the classroom recitation, "activities involving individual pupil responsibility" rank first, as against fourth in both total frequency and in other classroom relations, and as against seventh in the life of the school as a whole.

tendency to stress individual personality development in classroom relations than in other school relations and activities. This conclusion is strengthened by the fact that activities involving individual pupil responsibilities rank ninth in ten classifications of school activities outside the classroom, reported as encouraged, (column 5, Table 12) and seventh among the nine classifications of activities suggested in the life of the school as a whole. See Table 11, column 11.

In Table 12, column 5, those activities involving the greatest social cooperation, namely, club activities, physical education, school control, assembly, social, welfare, journalistic and forensic activities all rank above activities involving individual pupil responsibility.

Table 12 gives comparisons between pupil activities outside the classroom, reported as actually encouraged in schools and those merely suggested as ways of securing character education results. It will be noted that there is a marked degree of correlation between the rankings of the classified activities in these two groups.

The classification of the specific activities suggested and reported by those returning the questionnaires has been, of necessity, an arbitrary one. The unclassified activities, it may be noted, constitute eight and nine tenths percent of all the activities mentioned. See Table 12, column 4. They have a greater percent of frequency of mention in the case of the classroom recitation and in other classroom relations than in the other cases as shown in columns 7 and 10 of Table 11.

The extreme variation in types of activities seems to be an indication of the fact that character education outcomes are being sought in practically all school activities.

Eleven different groups of student activities which further the development of good character—The activities *suggested* by those returning the

TABLE 12.—COMPARISON OF PUPIL ACTIVITIES ENCOURAGED IN SCHOOLS AND PUPIL ACTIVITIES SUGGESTED AS WAYS OF SECURING CHARACTER EDUCATION RESULTS[1]

Activities	Total			Encouraged			Suggested		
	Rank	Frequency	Percent of Total	Rank	Frequency	Percent of Total	Rank	Frequency	Percent of Total
1	2	3	4	5	6	7	8	9	10
Club Activities	1	447	44.1	1	422	52.8	3	25	11.7
Physical Education Activities	2	190	18.7	2	143	17.9	1	47	21.9
School Control Activities	3	107	10.5	3	66	8.3	2	41	19.2
Assembly Activities	4	51	5.0	4	38	4.7	5	13	6.1
Activities Involving Individual Pupil Responsibility	5.5	32	3.2	9	9	1.1	4	23	10.7
Social Activities	5.5	32	3.2	5	20	2.5	6	12	5.6
Social Welfare Activities	7	23	2.3	7	15	1.9	7	8	3.7
Journalistic Activities	8	19	1.9	6	18	2.2	8.5	1	.5
Forensic Acitivites	9	14	1.4	8	13	1.6	8.5	1	.5
Religious Activities	10	8	.8	10	8	1.0	10	0	.0
Unclassified Activities	......	91	8.9	......	48	6.0	......	43	20.1
Totals	......	1014	100.0	......	800	100.0	......	214	100.0

[1] Both encouraged and suggested activities are those other than classroom activities.

questionnaire as ways of securing character education results in the classroom recitation, in other classroom relations, and in the life of the school as a whole, and those school activities reported as *encouraged* for the furtherance of character education ends were exceedingly diverse. It seemed advisable to classify them into these ten groups: Club activities, physical education activities, school control, assemblies, individual pupil responsibilities, social activities, welfare work, journalism, forensics, and religious activities. Such activities as did not fit into any of these ten groups were termed "unclassified."

Below are listed five major groups of pupil activities included in Table 12. Under each group are given specific activities which were listed by *three* or more of the 229 school systems reporting.

Club activities—The following different forms of club activities were mentioned from three to two hundred twenty-nine times: Clubs, boy scouts, girl reserves, civic clubs, girl scouts, orchestra, campfire girls, glee clubs, music organizations. Hi Y. W., and athletic, class, debating, girls' library, and literary clubs.

Physical education activities—These four activities were mentioned from three to one hundred fifty-one times: All athletics, playground activities, play, and physical education.

School control—This group includes all pupil activities relating to the management of the school. These five practices were mentioned from three to twenty-nine times: Student councils, student organization, student participation in school, student government, traffic officers, and student control of playground.

Assemblies—The character education values of assemblies, auditorium activities and programs were mentioned by forty-nine of the two hundred twenty-nine school systems replying to the questionnaire relative to character education activities.

Social activities—Parties, social life of the school, entertainments, class parties, and social events were each mentioned from three to eight times as contributory to good character development.

Other student activities mentioned three to twelve times were: Junior Red Cross, school paper and other publications, debating, Bible study, "home-room" activities, school projects, advisory period, and banking.

Character education outcomes—Practically all the respondents to the questionnaire included a list of traits and attitudes. These were grouped as far as possible under general headings and tabulated by frequency of mention as desirable character education outcomes.

Table 13 lists the fifteen desirable character education outcomes, resulting from various school contacts (classroom recitation, other classroom relations, and life of the school as a whole) arranged in order of frequency of mention.

It will be noted that while there is a rough correspondence in ranking on the various items in the several distributions, particularly on a few of the outcomes (such as cooperation, courtesy, judgment, and initiative) the distribution seems to be peculiar to each of the lists. Note columns 2, 3, 4, and 5 in Table 13.

TABLE 13.—DESIRABLE CHARACTER EDUCATION OUTCOMES

Rank	Total Mention	Classroom Recitation	Other Classroom Relations	In School Life As A Whole
1	2	3	4	5
1	Courtesy	Honesty	Courtesy	Loyalty.
2	Honesty	Courtesy	Cooperation	Responsibility.
3	Cooperation	Industry	Justice	Conformity.
4	Loyalty	Cooperation	Loyalty	Cooperation.
5	Conformity	Independence	Conformity	Courtesy.
6	Responsibility	Responsibility	Honesty	Justice.
7	Justice	Justice	Industry	Service.
8	Industry	Promptness	Service	Independence.
9	Independence	Accuracy	Independence	Honesty.
10	Service	Conformity	Self-control	Independence.
11	Self-control	Self-control	Responsibility	Self-control.
12	Promptness	Loyalty	Sportsmanship	Judgment.
13	Judgment	Initiative	Judgment	Order.
14	Accuracy	Judgment	Fraternity	Promptness.
15	Sportsmanship	Leadership	Initiative	Fraternity.

The tendency, at least on the part of those reporting, seems to be to associate definite character outcomes with definite types of activities. This is probably as it should be. Loyalty, for example, is undoubtedly more readily developed in such activities as athletics and school or group activities as clubs and teams, than it is in activities involving individual pupil responsibilities such as those of the classroom recitation. Industry, perhaps, is a trait more easily developed through the latter.

The results of character education would probably be greatly improved and the attainment of the desired outcomes rendered much more direct, if for each desired character education outcome we could discover those pupil activities in which the outcome most naturally and readily develops.

Review of Courses of Study in Character Education

How many school systems have definite course of study bulletins in character education?—Fifteen definite elementary course of study bulletins, four secondary, and two state bulletins, directing teachers as to how to promote character education came to the attention of the committee. These character education bulletins were issued for use in the following school systems:[1]

Elementary schools: Birmingham, Boston, Buffalo, Detroit, Elgin, New York City, (Ethical Culture School), La Crosse, Lewes, Newark, New York City, Oakland, Salt Lake City, Philadelphia, Schenectady, and West Allis.

Secondary schools: Birmingham, Los Angeles, New York, and Oakland.

States: Oregon and Utah.

Some of the outstanding characteristics of these courses in character education are presented here through brief excerpts and descriptive notes.

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[1] Also see courses listed on page 184 of "Keeping Pace with the Advancing Curriculum," *Research Bulletin* of the National Education Association, Vol. III, Nos. 4 and 5.

Character Education in Elementary Schools

What Birmingham, Alabama, is doing to promote character education—These evidences of fundamental and persistent character development efforts in the Birmingham schools are set forth in a mimeographed statement sent out by their school department. Teachers studied the problem on the basis of a bibliography prepared by the Teachers' Study Course Committee. Many schools purchased the best books on character education and used them jointly in the various schools. Character education had a regular place on the program at the monthly grade meetings of all teachers. Such topics as these were discussed: Character Education through History, Character Education through Arithmetic, and Character Education through Literature. Many teachers took advantage of a University of Alabama extension class in methods in character education. Several of the schools made use of the "Manners and Conduct Chart" of the Child Welfare Society.

This chart emphasizes the following twelve rules:

1. Every boy or girl sits and stands erect.
2. Every boy takes his hat off to a lady and offers his seat to a lady or an older person.
3. Every boy or girl shows respect for parents, teachers, officials and older persons at all times.
4. No boy or girl is cruel or a rough bully or makes fun of other people.
5. Every boy or girl says "Please," "Thank you" and "Excuse me" at proper times.
6. Every boy or girl keeps public property safe and clean.
7. Every boy or girl washes the hands frequently, takes a bath more than once a week and keeps neat.
8. No young boy uses tobacco or swears.
9. No young girl uses paint or powder. To be clean is to look well.
10. Every boy or girl works and plays fair.
11. Every boy or girl is unafraid and does not lie.
12. Every boy or girl learns some new thing and says prayers every day.

Boston has a course of study entitled: "Citizenship Through Character Development"—This course is the result of two years' work by a committee of seven masters in the Boston schools with whom a large number of teachers and principals cooperated. The course covers grades one to eight.

The skeleton or frame work of this course is Hutchin's *Children's Code of Morals*.[1] The reasons assigned for using this code were: (1) It is known throughout the United States and has been accepted as a moral code, and (2) the ten laws of the code, plus the law of loyalty added by the committee, include all the fundamental virtues and express them in convenient form for teaching.

Each of the eleven laws of conduct are taken up in order. In treating of the law of health, for example, the Health Creed for Massachusetts boys and girls is given a prominent place. The bulletin points out how this law may be emphasized in the study of literature, geography, and hygiene.

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[1] This code may be secured from the Character Education Institution, Washington, D. C.

In the study of literature it is advised that the story of Pasteur, the story of the conquest of the yellow fever, and the story of the building of the Panama Canal be used. In the study of history attention should be drawn to the care of the health of soldiers by Washington, Lincoln and Foch. Stories of the sanitary measures instituted during the Great War should also receive attention. Three pages of reference material are supplied under the law of health. Each of the other laws is taken up in the same fashion and an extended bibliography is provided in connection with each.

The course of study bulletin on character education is supplemented with an inspirational magazine issued monthly, beginning September, 1925, entitled, "Citizenship through Character Development." The aim of this magazine is to keep the character training objectives, outlined in the course of study, before the teachers by bringing to their attention the best work that is being done in carrying out these objectives. To illustrate, the first issue of this magazine supplied a large number of quotations under each law. It also presented articles showing how character education was furthered by the organization of a Children's City Club in one school, by extra-curricular activities in a high school, and by the study of biographies in other schools.

How character building is emphasized in the schools of Buffalo, New York—Character building is not an incidental or accidental objective in Buffalo. A definite course of study bulletin, entitled "Character Building" has been prepared. It shows some of the plans and devices employed by teachers and principals in character training.

The three means to character education, according to the committee which formulated this bulletin are:

1. Social activities of children, such as those of the kindergarten, athletics, and scouting.
2. Method of conducting the school and recitation.
3. Regular subject-matter in the course of study.

This pamphlet does not deal in glowing generalities. It presents practical and timely suggestions under each of these headings:

The principal's responsibility in character education; teacher's responsibility in the moral training of children; character training in the kindergarten; music, visual education, play, and athletics—their relation to character education; character training through the school assemblies; club activities; the school and Boy Scouts of America and Camp Fire Girls; student government; school patrol; personality of the teacher; and qualities which make for sound character.

Washington's rules of conduct are quoted. Lists of slogans, mottoes, memory gems, poems valuable in character education, and a list of books which teachers have found helpful are included. Many of the sections are full of concrete suggestions calculated to show all the teachers of the city the value of each type of work presented.

The following paragraphs are quoted from the section on Student Government as giving the essential features of the "Marshal System":

> "Of All, By All, For All," that is the inscription on the badges worn by the marshals at School No. 31, and it epitomizes accurately the character of this excellent form of pupil government, which has long been an established part of our school management.
>
> "Of All" because every child has a share in the system either as a part of the governing body or as a part of the great mass of pupils being governed; "By All," because the marshals being annually elected by popular vote, represent their classmates; "For All," because every child from the tot in the first grade to the mature ninth grade pupil is under the direction of the marshals. The subordinate marshals are themselves responsible to the chief marshals. This system is, in miniature, that "government of the people, by the people, for the people" which is the keynote of the Constitution of the United States.

The following paragraphs quoted from the section on the Personality of the Teacher are concretely suggestive:

> The personality of the teacher and the principal is an absolutely indispensable agent in moral training. It is needless to say that they, the principal and the teacher, must be all they expect their pupils to be; their personality and their ideals must be of the highest order. They must be clean in body, mind and soul; they must be trustworthy; they must be honest and truthful; they must be absolutely fair; they must be worthy of emulation.
>
> Fair play on the part of teacher and principal enters largely into the success they can have in character building.
>
> The greatest opportunity in the teaching of morals is the influence of the teacher's own personality. It is not what she pretends to be, or would like to be, but what she is that makes her a good example.
>
> Since sincerity is a fundamental virtue of character, the teacher can best teach this by trying to her utmost to be sincere in her dealings with her pupils.
>
> The teacher who can say, "That was my mistake," or "I do not know; I will look it up," has given a far more effective lesson in teaching sincerity and honesty than the teacher who talks half an hour about "being sincere."
>
> The other fundamental virtues can be best taught by the teacher's example. The pupils must be taught to realize from the teacher's attitude and treatment of them that she is not infallible but that she is striving to reach the same goal as they are.

Code of morals used in the schools of Detroit—Directions regarding moral education in the Detroit public schools are embodied in a pamphlet entitled "A Children's Code of Morals for the Boys and Girls." The superintendent's word to the teachers says: "This code of morals is not a course of study and it is not to be treated as such. It is rather a reservoir of organized and useful statements of essential ideals."

The chapter on method is basic and well written. These quotations indicate its fundamental attack:

> There are three ways in which instruction in morals may be presented: (1) as ideas, (2) as habits, and (3) as purposes.
>
> The most effective form of moral instruction is that which results in the formation of a purpose to adopt a given habit as a consistent policy of behavior on all occasions and in all situations. Once such a purpose is formed, the child himself looks for new situations to which the policy will apply and day by day as his habits widen and strengthen, they contribute to the building up of character and personality, the ultimate end or goal of all true education.
>
> For instance, it is a teacher's duty to herself to exemplify and to demand of her charges consistent moral behavior. The code serves to define such behavior.

> A second duty of the teacher is to present to her class stimulating material of every type which expresses society's approval of correct behavior. The desire to qualify "as an American citizen," "as a gentleman," "as a successful business man," etc., is a powerful incentive to right conduct. Especially at times of national holidays or the birthday of national heroes is it possible to build a social halo around the desirable virtues.
>
> However, no systematic and planned effort on the part of the teacher will equal in effectiveness the few well-chosen words of interpretation spoken at the psychological moment. The best work in character building will be done by the teacher who knows her children best, who enters most completely into their hopes and fears, their joys and sorrows, and who is able to direct their thinking into those channels which lead to the formation of worthy and lasting purposes.
>
> It cannot be too much emphasized that to be of greatest value each child must make his moral generalizations himself. For this reason it is often better to refer the children to some story or literary masterpiece and let them gather morals for themselves. The selections given under each element of the code have been chosen with this thought in mind and should prove of great assistance to teachers.

In the Detroit Code of Morals, twenty-one pages are devoted to setting forth the laws of the code and to suggesting things which may be done to make each law effective in improving the character of children. For example, following the statement of the law of health, five notable examples are listed: Theodore Roosevelt, Edward Trudeau, Pasteur, Florence Nightingale, and Robert Louis Stevenson. Following each of these names is one or more references where information may be had about the character. In column 1 of the reading list, the title and author are indicated, column 2 indicates the type of material, and column 3 suggests the grade or grades in which the material will be found of use. Each law is treated similarly.

Schools of Elgin, Illinois, use a key-word for character training each day—The superintendent of schools of Elgin outlined a course in character education in his annual report of 1924-25. The course is divided into the following sections: Morals, Manners, Respect for Property, Safety, Thrift, Patriotism. The plan is to present the work on Morals on Mondays, Manners on Tuesdays, Respect for Property on Wednesdays, Safety on Thursdays, and Thrift and Patriotism on Friday. Fifteen minutes is devoted each morning to the presentation of this work throughout grades one to eight.

The superintendent of schools reports that it has been found impressive to use a key-word each day. Upon entering the building, regardless of the entrance used, the pupil is confronted with a placard, approximately 6 x 12 inches in size, suspended in the corridor. Upon the placard is the key-word for the day. It may be "honesty," "gentleness," or some other word. This key-word likewise appears upon the blackboard of each school room on that day. Oftentimes, in addition to the key-word, there is an outline helping the child to think of its meaning and its applications.

The following methods are reported as effective in carrying out the plan: Class discussion led by the teacher, class discussion led by some pupil who has prepared himself well, the chain question method among pupils, reports on specially assigned topics, debates especially in the upper grades, composition work, dramatization, clippings mounted upon the bulletin board, reporting and discussing experiences, and the use of four-minute speakers. It will be observed that the outline is not differentiated by grades. The differences in teachers is relied upon to introduce the necessary variety from grade to grade.

The section on morals carries these major headings in the outline: Sense of Justice, Truthfulness, Honesty, Reliability and Fidelity, Self-Reliance, Obedience and Respect for Authority, Forgiveness, Unselfishness, Cooperation and Loyalty, Punctuality, Kindness and Generosity, Perseverance, Industry, Humility, Associations, Self-Control, Habit Formation, the Law of the Kingdom. It will be observed that there are a total of eighteen major headings. The points outlined under punctuality are typical. This outline is as follows:

Punctuality. If there is any virtue at which we should aim, it is that of being prompt.

A. Necessary for success in life.
  1. Procrastination a very bad habit.
  2. One must be ready and quick to act.
  3. Promptness in keeping appointments.
  4. Promptness in getting work done.

B. A virtue to be cultivated in youth.
  1. Avoidance of dawdling over school work.
  2. Avoid putting things off.

How character development is realized in the Ethical Culture School of New York City—A definite course of study bulletin entitled *A Course of Study in Moral Education* is provided for each of the grades including the high school. At the outset this pamphlet says: "Although the school has for its highest object the moral development of its pupils, ethical instruction is but one of the methods depended upon to produce this result. Other factors are the school environment, the personality of the teachers and principals, and the public opinion of the school."

Closely related to moral instruction, provision is made to practice the social virtues that they may become habitual. Clubs and class organizations give large opportunity for this.

Attention is drawn to the changes which take place in pupils from the time they enter the school until they graduate from the high school. In the pre-adolescent period emphasis is placed upon bringing the moral traditions, which have come down from the past, to bear upon the children. The attitude of the child at this stage of development should be that of reverent acceptance. During the adolescent period the condition is different. The pupils become conscious of relationships. They begin to question established conventions. Recognition of this change is manifest in the topics treated and in the method employed.

La Crosse, Wisconsin, improved morale of school through weekly lessons on character—An outline, consisting of eight weekly lessons based upon these topics: home and school responsibility, honesty, good manners, square-deal, courage, loyalty, work, and service was developed by a committee of teachers.

The general procedure was to present a lesson on each Tuesday morning. An outline was developed at that time and the topic was intensively presented. It likewise served as a basis for discussion in other lessons throughout the week. To emphasize the lesson essays were written, talks were made by outsiders, related quotations were presented upon the blackboard and memorized. Posters were made and distributed about the rooms and halls. Particularly was an effort made to have the children practice the principles manifested in the teaching of each topic.

Right action is the objective of the Lewes, Delaware, course in character training—"Character Education" is the title of the 40-page outline which guides the elementary teachers of Lewes, Delaware, in their efforts to help pupils establish habits of right conduct.

The outline opens with this statement, A course in moral instruction will attempt to accomplish these things:

1. To develop the habits of asking and the power to answer the question: What in a given situation is the right course of action?
2. To give the desire to do the right.
3. To show how to carry knowledge and love of right over into action.

In each grade there are provided guidance suggestions under these heads: Morals, Manners, Civics, Patriotism, Safety. Suggestions as to procedure are offered. Stories which may be told are definitely cited. Brief quotations from poetry and other forms of literature are brought into the outline. The various special days are brought in for treatment. In the seventh grade, to quote but one illustration, "Courage" is treated as the first topic under Morals. Following is the outline:

I. Courage:

a. Industrial and social heroism, i. e., courage shown in facing the risks of industry and life saving. Include moral courage displayed by the refusal to engage in dishonest business dealings, or fearless and resolute defense of truth.

b. Illustrations of moral courage: (1) Declaration of Independence, (2) Story of Peter the Hermit, (3) Story of the Alamo, (4) Story of Joan of Arc, and (5) Story of Ida Lewis, the life saver.

c. Opportunities to show courage in the everyday life of the home and school. For example, checking dishonesty or other bad practices among schoolmates or playmates. Independence in doing right regardless of the opinion of one's mates.

Newark, New Jersey, presents character education topics by months to all pupils from the kindergarten through the ninth grade—The Newark course of study in character training is so arranged that there is a topic for each month. These topics are the same for the kindergarten and each of the grades. The list is as follows:

September—Industry and good workmanship
October—Cooperation
November—Duty and Service
December—Reverence and respect
January—Truthfulness and honesty
February—Loyalty and patriotism
March—Courage and self-reliance
April—Kindness
May—Sportsmanship
June—Self-control

The course for each grade suggests stories, songs, poems, and games which may be used in appropriately developing the thought of the topic in a particular grade. At the end of the outline for each grade is a bibliography of sources for the teacher's use.

The following outline on Loyalty is typical:

Loyalty (Patriotism)—

1. Loyalty to one's self.
2. Loyalty to one's family.
3. Loyalty to one's school.
4. Loyalty to one's city and country.
5. Love and respect for the flag.
6. Regard for the honor and good name of the country.
7. Respect for its laws.
8. Patriotism is a matter of action and conduct rather than mere words.

Following the outline for each grade is a list of slides and films which may be secured from the Department of Visual Education for use in developing each topic.

New York City's "Syllabus on Manners and Conduct" emphasizes right behavior in the home, school, and outside world—This syllabus was adopted by the Board of Superintendents in 1917. Its guiding principles are set forth as follows:

Efforts of teachers toward character building and right conduct in pupils should have as central aims:

1. Cultivation of sound moral judgment so that pupils will distinguish clearly between right and wrong.
2. Awakening of a love for the good, the true, and the beautiful.
3. Development of self-control.
4. Cultivation of a spirit of self-sacrifice.
5. Maintenance of high ideals.

School training is incomplete without a knowledge of the theory and practice of conduct that will fit children for social intercourse with their fellow-beings and for the necessary relations of business life.

The following major headings appear in the syllabus: *Conduct in the home*, with emphasis upon courtesy and greetings; *Conduct in the school*, with emphasis upon example, models, speech, self-control, and obedience; *Conduct in the outside world*, on the street, at entertainments, in the business world and the like.

How Oakland, California, developed and put in operation a plan of character education—While Oakland has no course of study in character education, the teaching staff under the guidance of the administration has developed a plan of character education and the reports evidence good progress in putting it in operation. The following excerpts taken from a bulletin entitled, *Progress in Character Education Covering the School Years 1923-24 and 1924-25* suggest the procedure and progress made:

1. All principals and faculties studied the Iowa Plan of Character Education, criticized the same and adapted its suggestions to use in the Oakland schools.

2. A general committee of principals was appointed to study plans for character education and make recommendations for procedure in the Oakland schools.

3. The committee reported general progress and the report was printed in a bulletin for all Oakland teachers under date of May 29, 1924.

4. The committee reported again on June 4, 1924, recommending four general measures as follows:
    a. That every school adopt some plan of character development and character rating.
    b. That some practical scale for evaluating character attainment on both the positive and negative sides be adopted, and that a record of same be kept.
    c. That all special privileges, such as holding student office, participation in special activities, etc., be withheld from students who do not have a satisfactory character rating.
    d. That graduation from senior high school, or recommendation to college or to a business position be denied any student who does not have a satisfactory character rating.

5. A special study of various plans was made by the office of the superintendent of schools and a general report made to the teaching body of Oakland in an address before general meeting on October 22, 1924.

6. A survey was made by the office of assistant superintendent of schools summarizing the progress thus far and report made at general principals meeting on March 11, 1925.

7. All schools have taken progressive steps in character education as a result.

Such a survey as the above is always valuable in that it shows what has been done and suggests further steps to be taken. To illustrate, the following report regarding character education in Fremont High School is quoted from the Oakland bulletin as typical of the reports from various Oakland schools. It shows the thoughtful and dynamic way in which a school faculty is facing the problem of character education.

CHARACTER EDUCATION IN FREMONT HIGH SCHOOL, OAKLAND, CALIFORNIA

Steps Taken in 1923 1924	Steps Taken First Semester, 1924 1925	Further Steps To Be Taken
1. Study of Iowa Plan by entire faculty. 2. Each teacher participated in attempting practical application in her classes. 3. Adapted subject-matter of courses of study for various subjects to character objectives. 4. Planned committee work for ensuing year. 5 Attempted definition of certain characteristics, such as honesty, reliability, etc. 6 Undertook projects of general school improvement. 7. Undertook three large projects of social work outside of school including Lazear Day Nursery.	1. Two faculty meetings held. 2 Teachers opposed formal rating. 3 Each member of faculty purchased copy of "Good Manners and Conduct" by Cunningham. 4. Folders issued each two weeks to students based upon this book.	1. More responsibility to students of character education program. 2. Concentration on eradication of wrong tendencies until marked improvement is shown. 3. Plan by which loss of conduct points can be restored by improvement on part of student. 4. Plan to have every student participate in at least one club or school activity. 5. Assemblies and conferences for inspirational, instructional and vocational talks. 6. More books in faculty library on character education. 7. Plan to interest faculty in wider study of nature of character education and method to be employed in promoting it in school.

What specific habits of good conduct should a first grade pupil acquire?—The "Character Education Supplement" of the Utah state course of study states that these specific habits should be worked for in the first grade:

A. In connection with the work of the room:

1. Being in the school room and ready for work at 9 A. M. and at 1 P. M.
2. Putting on, taking off, and hanging up out-of-door wraps.
3. Ability to come to school and to go home alone. Learning to look in both directions before crossing a street. Keeping out of the street when at play.
4. Going directly home when school is dismissed in order to save parents from worry, and to further the work of classes still in session.
5. A desire to contribute to the entertainment and advancement of the group by leading the singing, preparing stories to read to the class, taking part in games and dramatizations and giving attention to the work in hand.
6. Getting out and putting away materials used in the free period in handwork and in art.
7. Walking through the halls, because running where there are so many people is dangerous.
8. Learning to use the designated entrance in order to expedite the administration of the entire building.
9. If there is a school nurse, learning the days when she comes to the building, learning where her room is, and to go alone for a permit after absence.
10. Locating the office of the principal, learning to address him by name, locating the janitor's room and learning to speak to him as Mr. ——.
11. Increasing control over hands and feet. Ability to sit on a chair without interfering with neighbors.
12. Willingness to take a push or a little knock good-naturedly.
13. Control enough to stand in line and each await his turn at the drinking fountain or when passing into or out of a room or the building.
14. Establishing the habit of bringing a handkerchief to school every day.
15. Learning to be kind to animals by caring for pets at school and at home.

B. In connection with the school as a whole:

1. Keeping buildings free from crayon and pencil marks.
2. Helping to keep the surroundings clean by picking up papers and by refraining from throwing refuse about.
3. Cleaning mud from shoes and removing rubbers before entering rooms.
4. Playing at the recess periods instead of hanging around the door. (This habit can be inculcated best by the teacher spending some of the recess periods upon the playground.) "If you get a little hurt, never mind; don't spoil the game." In winter, playing only such games with snow as will not encroach upon the rights of others. (A place should be set aside for snow-balling.)
5. Handling of books with clean hands. Returning books promptly. First grade children should be taught how to open a book properly.

C. In relation to contact with certain persons who represent the authority of organized society:

1. Obedience to mother and father at home.
2. Obedience to the teacher and principal at school.

Character Education in Secondary Schools

Space permits only a brief mention of the character education programs of three high schools.

Birmingham high school pupils developed a sportsmanship code. A report from Birmingham, Alabama, states that great value was derived from the development of the following sportsmanship code.

A Good Sportsman—

Is Courteous

On the field he does not jeer at errors; he does not cheer at the opponent's penalty; he treats them as guests, not enemies.

In school he is considerate of the faculty, of fellow students, and of visitors.

In life he is respectful to elders and superiors; he treats the other fellow as he would be treated.

Is Modest

On the field he works for the good of the team rather than for individual honor; he will even sacrifice his own prestige for his team; he is a gracious winner.

In school he does not become conceited over his success, neither does he feel himself superior to his classmates.

In life he does not "blow" about what he is going to do; he does not boast about what he has done.

Is Generous

On the field he applauds a good play of his opponents; he gives the other fellow the benefit of the doubt.

In school he does not "knock" other schools or individuals; he appreciates another's merit.

In life he does not ridicule the man who is "down" but encourages him. He is not afraid to think for himself and to voice his opinions straightforwardly, and clearly.

Is Game

On the field he plays hard; he fights though he may be already defeated; he accepts adverse decisions; he is a good loser.

In school he does his work, he keeps on working in the face of almost certain failure. He has the "vim to think straight, the pluck to act straight."

In life he does his part, however hard it may be; he accepts reverses with a smile and tries again.

Is Obedient

On the field he observes the rules of the game.

In school he observes all of the regulations.

In life he respects the civic laws and the demands of the community.

Is Fair

On the field he competes in a clean, hard-fought but friendly way; he helps an injured opponent; he has no alibis.

In school he does not waste his time nor that of the faculty; he does not copy his classmates' work; he does not receive aid from any source on his examinations.

In life he sees impartially both sides of a question; he uses no underhanded methods; he is not influenced by money; he is not partial in administering justice.

"Character Education in High Schools" is the title of a 151-page monograph issued by the New York City Board of Education—The foreword says: "Our studies of this problem have aimed to ascertain how each school subject, class exercise, examination; and how sports, games, contests, social activities, school and class organizations, and the duties, service to the school and other concerns of the pupils contribute to building efficiency, integrity and fitness for the activities of life."

The committee which carried on this survey makes this comment relative to its report:

> It implies a school organization in which the administration is planned with reference to community interests; a school so organized that the student body will have ample opportunity to cooperate and participate in the administration; a school organization in which the students themselves will accept responsibility for certain phases of conduct and behavior on the part of the student body; a school in which there no longer exists the traditional struggle for mastery between pupil and teacher; instead a school community in which a large proportion of the students are lined up with the teachers to accomplish the purposes for which a public high school exists.

Each of the nine chapters of the report is full of concrete materials and suggestions as to how disciplinary problems may be handled to secure best values to the child from the standpoint of character; how conduct or character ratings may contribute; and the value of moral codes and extra-curricular activities. The committee summarizes its report in these recommendations:

A. That the first aim of a high school education should be the training in character which will fit boys and girls for citizenship in a democracy.

B. That this aim can be furthered by the following means:

1. The formulation and adoption by students of ethical codes, and their use as the sanction of school collective opinion for standards of right.
2. The use of section and general assemblies for instructional and inspirational work in character education; and necessarily, provision in programming for section periods long enough for this purpose.
3. The training of students in responsibility for standards of conduct, manners and taste, through student organizations.
4. The stressing of ethical values in all extra-curricular activities, and the training of natural leaders to uphold high standards.
5. The use of citizenship or character ratings which record excellences as well as weaknesses of character, and which appear on the permanent records and on the reports to parents.

6. Discipline based on a sympathetic understanding of offenders, and tending to permanent reform through change of the pupil's attitude; the services of experts; such as the visiting teacher, the psychologist, and the psychiatrist, for the better understanding of abnormal pupils.
7. Sympathetic cooperation with the home, and with welfare and social agencies of the community.
8. Requiring elementary schools and junior high schools to furnish to high schools a character record of each graduate, with sufficient analysis to indicate outstanding traits and tendencies.
9. Revision of wording on high school diploma so as to include both character and scholarship qualifications. (Suggested revision indicated in report on Character Requirements for Entrance to Higher Institutions.)
10. Revision of the training school blank so that the candidate's character attainments may be more clearly indicated.
11. Emphasis in the minds of students upon the fact that colleges and other higher institutions have definite character requirements for entrance.
12. Emphasis upon the increasingly insistent demand of business firms that applicants for positions present credentials of good character.

C. That to help carry out this program the position of Dean of Girls and of Dean of Boys be established, so that in every high school there may be a teacher whose energies shall be primarily devoted to the work of directing character education, and who shall be given sufficient time allowance for this work to make it effective.

Los Angeles sets up definite goals for character education rather than abstract principles—"Character and Conduct" is the title of the Los Angeles monograph suggesting to high school teachers how they may go about the achievement of character results. It points out that there can be no separate and independent curriculum for character building. "Whatever is to be accomplished in character teaching must be done through the regular school subjects, organization interest, and school activities." Concrete and practical suggestions are made as to how this can be accomplished.

Ethics as a high school subject—While some educators agree that development of ethical character results from the order, arrangement and tone of the classroom; from the greetings, the requests, the approvals and disapprovals of the teacher and classmates; from every subject in the curriculum and from every activity; in addition they argue for a special course in ethics. They maintain that ability to evaluate social situations as they arise in the experience of the citizen is not dependent upon his knowledge of the facts of social life and social institutions alone; but also upon his understanding and appreciation of moral values and moral obligations. These, they say, are best taught through a course in social ethics. This question arises, In such a course can a basis of moral obligation be found that has a universal appeal? The following discussion[1] will be found helpful by those who are developing a course in school ethics:

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[1] The original draft of this section was prepared by Milton Bennion, dean, School of Education, University of Utah. Due to space limitations considerable revision of the original draft prepared by the author was necessary.

Students of character education will also be interested in the forthcoming report of the Character Education Committee of the National Education Association, to be published shortly by the United States Bureau of Education.

Since the public schools have to teach morals and ethics to pupils of all and no religious affiliations, it becomes necessary that a basis of moral obligation be found that can be appealed to irrespective of religious sanctions. This basis may be found in the study of human nature and society, but more especially in a study of the history of civilization and the nature of contemporary society. The relation of the development and the transmission of the social inheritance to human welfare and the progress of civilization can be made clear in the high school courses in history. This concept may then be used as a foundation for the course in social ethics by summarizing the nature of the social inheritance and showing the dependence of the individual in modern society upon all who have gone before as well as upon contemporaries. By connecting these facts with the idea of equivalent return for benefits received, a commonly accepted element of justice, it is possible to find a very sure and impressive basis of moral obligation—the obligation of the individual, for values received from humanity, to return service to the full extent of his ability. The judgment of the impartial spectator would not require more; anything less would fall short of the individual's great debt to humanity. This universal dependence of the individual in a civilized society upon his fellow men is an aspect of the fact of human solidarity from which moral obligations logically follow.

On this foundation it is possible to build a system of ethics or morals on an empirical basis. It will involve study of the relation of man to his natural environment and to his fellow men, of the nature and function of social institutions, and of the obligations of individuals to these institutions and of institutions to society at large.

The factual content of such a course will of necessity be drawn from history, civics, economics, and sociology. The topics will, however, be selected for their bearing upon fundamental ethical principles and will be so treated as to bring to light these principles and show how they may be applied. Among the topics most worthwhile from this point of view are the following:

The conservation and development of human life through:

Health education
Public sanitation
Regulation of conditions of labor in industry
Prohibition of traffic in narcotics, alcoholic beverages, and adulterated foods
Prohibition of white slavery and of all forms of prostitution
Fostering education and encouragement of wholesome recreation.

Closely related to this topic, if not a part of it, is the question of the conservation and use of the natural resources upon which human life depends.

There are also many complex and perplexing problems incident to density of population and the rise in the standards of living. Among these are: (1) Attitude of the state toward private property; (2) methods and the limitations of taxation and public expenditures; and (3) ownership and regulation of public service corporations.

While these topics are treated in economics they are not always discussed with a view to determining the underlying ethical principles. It is, of course, upon these principles that legislators and citizens should act in determining how to deal with these questions.

Other problems that may be included in a high school course in social ethics relate to marriage and family responsibilities, school community life, vocations and business, and civic responsibilities, including the ethics of democratic government and of international relations.

Character Education through the Regular School Subjects

This section points out certain ways in which the contents of school subjects may contribute to the development of character and improvement of conduct of students. Each subject in the elementary school curriculum has contributions to make to good citizenship training. Limitation of space permits only the mention of these few illustrations.

Character education through physical training—Physical training by means of games is a medium for lessons in gentlemanly, honorable sportsmanship. To win honorably, to lose graciously, to cooperate generously—in a word, to "play the game"—has made men out of selfish whining cowards. No subject offers a better chance to practice good character under conditions which closely approximate those that will later be encountered in adult life. The school system that is not making its physical education program a strong factor in the development of sound character is missing a great opportunity.

Character education through science teaching—Through lessons in the biological and physical sciences the student learns the inevitableness of a natural law. Opportunity is offered for the development in students of:

(a) An altruistic spirit and a determination to prevent the use of scientific knowledge for the injury of the race and to encourage the utilization of its findings for the service, improvement, beautification and humanizing of all the situations and experiences of life.

(b) An open mind. One learns that while the theories of today may become the laws of tomorrow, they may, on the other hand, need to be discarded for more tenable theories.

(c) Reverence. As the student learns of the marvelous adaptations of nature to the life of man, and to man's ability to adapt himself to his environment through changing both the environment and his own ways of living—as he learns that there is a limit to man's ability to understand life and all its implications—he should develop reverence for the unseen Power that is over and within all.

Character education through the teaching of mathematics—The exact science of mathematics has great adaptive value along moral lines if taught with some imagination in a crisp, practical way and if related to actual life. To illustrate:

Accuracy in the business world has a moral value sometimes little understood. It conserves the world's time and money and makes business transactions safe and honorable. The pain and pest of inaccuracies is made clear from the disaster that comes to men and their families through careless mistakes, as, for instance, in the case of a contractor who has given his check as pledge of good faith in undertaking a building project and then through mistakes in his computations finds himself forced to suffer great loss in carrying out his contract, or to sacrifice his good standing and possibly his chances of future employment by refusing to go on with the work.

As the student works with figures, equations and formulæ, if he is not learning some of these lessons for his moral guidance, he is being cheated by the exact science of mathematics. In fact, he may forget the binomial theorem, but he will not forget the lessons of the teacher who had the wisdom and imagination to interpret to him the real nature of values and the underlying principles of a mathematically moral universe that operates with terrifying accuracy.

Character education through the fine arts—School instruction in the fine arts should look to the making of citizens (a) who recognize and appreciate the beautiful in nature as well as in art, (b) who desire to have artistic homes and to see beautiful public buildings, streets and parks, (c) who will use all means to secure these civic improvements, accepting taxation gracefully for themselves and applauding that altruism in others which takes the form of gifts and bequests for the making of a city beautiful.

Character education through music—Chapter XI points out that the central purpose of music instruction is appreciation of beauty. The importance of the socializing influence of music is widely recognized. The beauty in music brings people together on high levels of feeling and "makes the whole world kin." Furthermore, the beauty in good music is regenerative.

Educators should recognize that of all subjects in the curriculum, music is likely to be most influenced by radio. Were scientific data available they would probably show a great increase during this decade in the time spent listening to music.[1]

The radio brings jazz or an immortal symphony into thousands of homes depending upon the choice of the listeners.

The public school has the opportunity to determine very largely what the choice shall be.

Character education through the teaching of spelling[2]—There is a *right* way to spell a word. All other ways are *wrong*. *The teacher makes provision*—manages and controls circumstances and conditions so that every learner can spell every word correctly and most surely and carefully expresses hearty approval when this is accomplished and just as certainly and heartily expresses disapproval of every mistake. Under normal conditions—under conditions that practically every teacher can provide—it is possible for every pupil to spell every word correctly. If this is not done, the teacher has failed in achieving the maximum character results. If there has been any failure, then two supplementary lessons must be learned. First, the mistakes must be corrected—corrected where they happened—that is, in the conduct of the learner himself. The second lesson, so very important for character results is the development of appropriate amount and kind of *shame* that should accompany such a procedure. There are three essential means for accomplishing this latter result. This wrong spelling separates the wrong spellers from those who spelled correctly; second, their conduct meets the disapproval of the teacher and their own disapproval; third, extra time is required to correct the mistakes.

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[1] See: *Research Bulletin*, Vol. III, Nos. 4 and 5, "Keeping Pace with the Advancing Curriculum." National Education Association, Washington, D. C. 1925. p. 158.

[2] See also page 408 for a discussion of the question, Can right habits and attitudes be developed through the teaching of spelling?

Another fundamental principle of character education is well illustrated by spelling. If the time and attention that are often used in correcting wrong spelling, were given to preventing wrong spelling—and this can be done—there would be fewer mistakes to correct.

A first principle in character education is thus well illustrated by spelling—doing the best that can be done under the circumstances and providing the conditions for correct spelling.

A second principle is the development of what may be properly termed "a spelling conscience." A vital and enlightened spelling conscience involves the three factors in an enlightened conscience—first, the abiding desire and decision to spell correctly—the decision not to guess at spelling; second, an appropriate remorse—a sense of shame if words are misspelled; third, a successful way of learning to spell involving the right use of the dictionary. All this procedure means the right use of approval and disapproval of teacher, class, and self.

Another fact needs to be noted if we are to give the character-forming power of spelling its full significance and that is, its social significance both from the point of view of its social use and from the point of view that the achievement of a reliable character in spelling places the person in the company of the cultured at least in this one respect. A child has a right to both these views and until he has this consciousness, his spelling ability has not yielded all the power and sense of power that it might yield.

Character education through the teaching of composition—In the composition class pupils write themes for which they must assume personal responsibility. They are entitled to attach their names as authors. There are routine requirements to which the composer must conform and there are also problems of diction and taste in which there are occasions for personal choice and judgment, but insofar as the composition is composition, it is a creation and represents its author. In this there is an occasion for truthfulness, honesty, sincerity, and personal achievement.

Character education through the social studies—Perhaps no subjects can be made to contribute more to the up-building of character than those included in the group of social sciences, "the mother lode of ethical material." For example, the history teacher with interpretative skill can through suggestion and question elicit the moral significance of each historical event in furthering the progress of the world. He can do more than this. He can relate historical events to the moral situations and obligations in which students are participating. He can lead pupils to see, for example, that such sturdy integrity as that of the American pioneer (a) would in the setting of modern life take him to the polls on election day, (b) would deter him in traffic from ignoring the rights of the pedestrian and make unnecessary the services of the "speed cop," (c) would lead him as a public official to guard and work for the public welfare, (d) would make him such a public servant as would scorn to betray the interests of the people by petty graft, bribe-taking, and speculation, and (e) would lead him to cooperate in efforts to advance the material, educational, æsthetic, and religious well-being of the community.

Ways of Teaching the Elementary School Subjects So That They Contribute to Character Development[1]

The preceding section pointed out that each subject in the elementary school curriculum has contributions to make to good citizenship training. This section shows that while the extent of the contribution of any one subject depends somewhat upon the content values of that subject, it depends chiefly upon how it is taught. In progressive schools of today subjects as such are not made the basis of the daily program but the children engage in activities which involve the content of several subjects in a related way. For example, a class may undertake to solve a problem such as this: How many different countries are represented in the trees in a nearby park? Here nature study is the subject stressed, but language, reading, writing, spelling, and geography will all be involved. The modern teacher guides her children into a wide range of activities emphasizing first one type of content and then another. Periods for the practice of certain skills, however, may be confined entirely to one type of content.

Principles which apply to all subjects—There are certain basic principles that apply to the teaching of all subjects if they are to develop right habits and attitudes.

The most effective moral training can be given when the child engages in purposeful activities in which he finds it necessary to choose between right and wrong. Then he can with the teacher's guidance build up concepts of right and wrong and again practice in making right choices. But the effectiveness of an activity program depends upon the teacher. If she leads the child into activities too difficult for him or worse still, *arbitrarily assigns a task* beyond his capacity, the weak pupil is liable to resort to subterfuge. For instance, Billy was asked to make a report in geography on a subject he could not comprehend so he copied the material from the encyclopedia and presented it as his own.

If the teacher permits activities which do not challenge the thought and effort of the child, the latter may become over-confident or lazy. He may utilize his spare time in ways not profitable, or worse.

In the teaching of any subject, promises should not be made and broken. Nor should the teacher ask for a certain accomplishment and then fail to recognize whether or not it is achieved. Children are quick to sense and imitate such laxity and indifference.

It is part of good teaching technique to see that the child finds satisfaction in right achievement and dissatisfaction in wrong doing. Sometimes the dissatisfaction may be delayed but it should inevitably come as the result of wrong choices and be associated in the mind of the child with his mistake. A teacher found that remonstrating with children for cheating in arithmetic did not deter them in the bad practice. So she said no more about the daily copying but arranged a series of weekly tests in which it was impossible to cheat. Those who cheated failed in the weekly test. They were led by their own observations and discoveries to the conclusion, "It does not pay to cheat in the daily work."

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[1] This section of the report was prepared by Ethel I. Salisbury, director of curriculum, City Schools, Los Angeles. Miss Salisbury acknowledges assistance in the preparation of the manuscript to Frances R. Dearborn, Hazel A. Finegan, Janie P. Duggan and Mary D. Reed, of the Department of Course of Study, Los Angeles City Schools.

It is desirable that children set up their own standards when the doing so is a part of the natural procedure in working out an activity. Illustration: Through a dramatic presentation the children are brought to a realization of the fact that it is an offense against good taste for two or three persons to disturb a large group in a moving picture theatre. The generalization is gradually developed that to do so at any time or anywhere is likewise an offense. The application is then made by the children to the schoolroom. After surveying its needs, a class is then able to set up standards of conduct—or rules—by which it is willing to be governed. Later when the need arises an organization is effected for enforcement of rules.

Application of principles to subjects—The application of these general principles is responsible for a whole new technique of citizenship training whereby each subject can be made to contribute more definitely to character building than the usual teaching procedure made possible. A few illustrations may serve to give some notion of the many possibilities which elementary school subjects offer for citizenship training.

Can right habits and attitudes be devoloped through the teaching of spelling?—Spelling although a drill subject has much to offer in character development if taught by modern methods. Testing before teaching develops right attitudes toward tests. The child learns that the test is a scientific means of finding where further practice is needed. He comes to welcome rather than dread the test. Correcting his own paper and the papers of others develops ability to be guided by objective standards (set up by the class); encourages the child in raising his own standards to meet the standards set up by the group; and develops attitudes and habits of helpfulness toward others. Diagnosing errors develops the attitude of studying a difficulty for the purpose of analyzing the cause of it. Individual study develops the wholesome attitude toward work—to do it because it needs to be done; develops the ability to work without group pressure; and develops the ability to work without constant direction. Working with partners develops ability to work together without disturbing the class (thoughtfulness for others); and develops the concept of what constitutes real helpfulness. Graphing results develops the habit of doing each day's work conscientiously.

What opportunity does the teaching of literature offer for character development?—Characters in literature personify and give meaning to ideals. Discussions of characters, their motives and acts when rightly conducted are a means of developing wholesome attitudes on the part of the children. The children come to see that the good and the bad are often found together and they learn to discriminate to the extent that standards of conduct are applied to the behavior of the people in the story.

The characters of literature may be used to interpret the acts of individuals or of the class. A group which had been reading *Understood Betsy* were annoyed by the unnecessary questions of one of their number about her arithmetic. One day after she had made an unusually needless query, someone said, "Well, Betsy Ann!" The child caught the point and worked out the answers herself.

A boy whose mother was blind refused to help his father in the home by washing dishes because he thought this task was not a man's work but changed his attitude after the discussion of *The Widow O'Callaghan's Boys* clarified for him the meaning of the word "manly."

If the teacher's aim in using a story from literature is to stress morals, then it is legitimate for her to teach it from that point of view and to follow it with personal situations which confront the pupils to which the story applies. Below are given some suggestions as to the way in which a well-known story can be used:

Story of Talkative Tortoise—Discussion:

If the geese were people, what kind of people would they be?
If the Talkative Tortoise were a person, what kind of a person would he be?
Would you care to have him for a member of this room? Why not?
What was the reason which the tortoise had for not talking?
Our reasons are not so important as his, but to be quiet at the right time tells people that we have had good training.

Assignment

Make a list of times when it is more polite not to talk.

1. When someone else is talking.
2. When someone is entertaining you by singing, playing on an instrument, or reading.
3. When you would disturb someone who is working.
4. At church or in the theater.

Check the ones which we need to remember at school.

Make a list of times when it is really impolite or discourteous not to talk.

1. When you are a guest and should help with the entertainment.
2. When you have a question which is important.
3. When someone asks your opinion.

Yes and No questions for check.

1. Should you talk while your teacher is giving directions?
2. Should you tell an interesting story at a party?
3. Should you talk in church?
4. Should you talk while other people are working if it disturbs them?
5. Should you visit with a new member of your room at recess time?

How to capitalize on opportunities for character development in social studies—Countless opportunities to build character are afforded in the activities of the social studies. Understanding of and proper respect for social institutions are built up by the detailed study of their functions. Discussion of historical characters and peoples gives the child concepts of the social and the unsocial acts.

Activities which give occasion for moral situations to arise help the child to differentiate between right and wrong. The following incidents illustrate such situations:

The fifth grade children were planning a "Chautauqua program" on Newfoundland, Greenland, and Canada. They planned to have an exhibit table, maps and charts, songs and dances, and lectures. It fell to Robert's part to write the lecture on Greenland. The class worked out an outline for the lectures as follows: (1) What the people do for a living; (2) Sports enjoyed in ——; and (3) How the people dress.

Robert drew upon his imagination almost entirely for his facts about Greenland. This was discovered and the class decided that Robert should take a number of reference books into the adjoining room and spend the day revising his "facts."

The above incident occurred in connection with group activities. Below are given some definite exercises employing the content of history for citizenship training. They are of value only insofar as class discussions call for a weighing of the choices of various students. They should (1) lead children to become more and more sensitive to moral elements in given situations; and (2) give practice in selecting the highest type of action when many gradations are possible, and there is no clear-cut dividing line by which it may be determined that one course of action is explicitly *right,* while another course is explicitly *wrong.*

In the following exercise it was the teacher's purpose to emphasize the qualities which characterize the person whom the world acknowledges has been successful. After the children had been studying biography they were given these instructions:

A. Select from your reading sentences that suggest to you direct reasons for Washington's success in life. These are typical sentences selected.

1. At school George was a spirited leader in all outdoor sports.
2. Washington was captain when the boys played at war.
3. As a boy George Washington learned many useful things outside of school.
4. . . . he gave up his plans (to go to sea) to please his mother and went back to school.
5. . . . "Here is the man for you, young and daring, but sober-minded and responsible. . . ."
6. Washington was so confused to hear himself so highly praised that, when he arose to reply, he could not say a word.
7. When the King's inspectors in the West Indies and in London saw barrels of flour marked "George Washington, Mt. Vernon," they let them pass, . . . for they were always good.
8. He was a man of deeds.
9. "I this day declare, with the utmost sincerity, I do not think myself equal to the command I am honored with."
10. Washington grieved over the suffering of his men, but never lost heart.

B. In what ways can you, today, make your life successful?

C. Check each of the following statements (quoted from Mace and Elson) plus or minus, (+ or —.)

I. Lincoln deserves the respect of the world because:

1. He read many good books.
2. One day a woman gave him six cents too much—he walked several miles to find her and give back the money.

3. He made it a rule never to take a case (in law) which he believed to be wrong.
4. His parents were very poor.
5. He was always in earnest and made his hearers feel that he was sincere.
6. He did not give up because he was defeated many times early in his career.
7. He said that he would rather be defeated standing for what he believed to be right than to be victorious without (standing for right).
8. He was a man who lived up to his statement "with malice toward none, with charity for all."
9. He was a successful lawyer.
10. He went about the country speaking from one place to another.
11. He took a definite stand against slavery.
12. More and more popular opinion in the state began to turn toward Lincoln.
13. He gave his life to preserve the Union of our country.
14. It was difficult for him to refuse mercy to anyone who came to him for aid.
15. He said, "A man has no time to spend half his life in quarrels."—He readily forgave an injury.

II. Fill the blanks:

A member of our class deserves the respect of his classmates because he does the following:

....

....

....

Six kinds of pupil activities in civics class rich in character training—While all other subjects supplement citizenship training, some time should be given for direct instruction in this subject. Definite lessons omitting preachment or censure but clarifying ideals and bringing about positive emotional responses should be given. The following citizenship or conduct training activities have been worked out as a result of certain needs.

In the beginning little children need to learn *what we mean* by citizenship, conduct, morals and manners, and all such terms. These may be taught through:

1. *Use of daily illustrations*—Realizing that children in the home and at school are constantly hearing certain expressions which have but vague meanings, the teacher tells a daily story to make clear such expressions as: "being good," "being helpful," "not bothering," "stopping to think," "being a nuisance," "making too much noise," "interrupting others," etc.

These stories may be told for the opening exercises, for the English expression, or for the civics period. They should be followed with free discussion by the children. During the discussion the children may be encouraged to tell actual experiences they have had in hearing such expressions used by their mothers, their fathers, and by teachers.

The main idea for the teacher to keep in mind is that every child—normal, non-English speaking, and immature—should have a clear notion of the common terms he hears in connection with conduct situations before he may be expected to apply such terms in real life. In other words, conduct concepts must be built up just as much as geography, arithmetic, and history concepts.

2. *Encouraging children to complete stories* in which a strong conduct situation has been built up by the teacher and where the ending calls for a decision on the part of the children.

Such stories should be based in the beginning upon experiences within the child's own world. They may be about pets, child life, bird and animal life, and about affairs of the home, the school, and the neighborhood. But they should be stories that are true in fact and possible in achievement. If they are simply worded, the stories may be used for reading lessons.

3. *Discussion of conduct traits brought out in a story*—Here again it seems better to use stories that are short, very simple in vocabulary, everyday in situation, and so constructed that the point of the story is not lost in a maze of irrelevant details. Such details as are inserted should be directed toward the building up of the conduct picture desired plus the right emotional attitude toward that picture. The story should call not merely for a conduct decision on the part of the children but it should call for real reflection and discussion.

4. *Recognition and discussion of conduct traits found in characters of books*—This kind of training may have real value. But care must be exercised that the activity carries on into discussion. Also the evidence of the conduct traits should be clearly seen by the children in the happenings of the story. For instance, Pandora should not merely be termed curious, ill-natured, disobedient, and stubborn; the children should actually prove by statements of what she does that Pandora possesses these undesirable qualities. In the beginning of conduct training, we must continually remember that words denoting qualities, ideals, and attitudes should be translated and clarified through acts, experiences, situations, and incidents real to the child.

5. *Matching of conduct traits and qualities with performance*—An activity which has proved successful in use with third and fourth grade children is one involving the matching of the qualities on the report card with stories illustrating these qualities.

The stories were written by a sixth grade to illustrate to smaller children what "Courtesy" and "Dependability" (items on the report cards) mean. The stories were written in simple vocabulary, were true in incident, involved a conduct problem and ended constructively.

Sixteen of the stories were selected for use in third and fourth grades. To introduce the idea of matching traits and actions, eight of the stories were mimeographed and made into one booklet. These stories were given headings denoting the topic of the story and also the character trait brought out. In reading this set of stories, the pupils were asked to see which story seemed the most true, which child had the hardest conduct act to do, and whether the sixth grade children chose the right names for the stories. After the stories were read silently, much oral discussion followed. This was greatly enjoyed by the children and gave the teacher opportunity to study the reactions to the stories.

The second set of eight stories contained the topic headings for the stories but omitted the topic for the character trait which the story illustrated. The directions for reading told the pupils to read each story silently and to decide whether the story was about "Courtesy" or about "Dependability." Again the reading was followed by discussion among the pupils and comparison of their decisions in naming the stories by character traits. After this the teacher led the children to relate real instances of courtesy and dependability. There were many other fruitful outcomes because of the variety of content in the stories and because they were on a level with the children's experiences.

6. *Building up conduct understandings from examples in literature*—Dr. Charters has warned us against illustrating conduct traits through the use of stories where the elements are not identical with and where the setting is too remote from actual surroundings of modern times. He refers to the Queen-Elizabeth-Sir-Walter-Raleigh-velvet-cloak-mud-puddle-episode so often used as an illustration of courtesy. Dr. Charters brings out the fact that we have too often expected children to make the transfer in application from such an ancient courtesy situation to the situations of today.

For this reason it is better with younger children to use stories and poems illustrative of today's experiences and with elements common to the children's environment. These stories and poems may contain appeals to the imagination. But they should also make a clear contact with the actual world of reality as seen by the children.

Such a poem as Celia Thaxter's "Little Gustava" is especially appropriate to read to children in connection with discussion of the care of pets or animals dependent upon people.

Classroom Procedure in Relation to Character Education[1]

Five essential characteristics of classroom procedure—As the experiences, undertakings, and achievements of the classroom are to minister to the realization of each of the ends which the school should accomplish, they should: (1) be meaningful, significant and purposeful to the pupils at the time that they are engaged in doing them; (2) be socially valuable—valuable in equipping the pupils for doing successfully any legitimate thing which they may undertake at any time (while children, or in later life); (3) be so carried forward that they appeal to the whole child, not just to his intellect or some other partial ability or quality of the child; (4) secure thoroughness of mastery and integrity of effort on the part of each child; and (5) constitute an on-going, developing, integrating process of growth.

Pupils should have a share in planning class activities—It is obvious that such an array of characteristics can be realized only when the pupils have a large part in the planning. It is in these planning periods that the teacher finds frequent opportunities for guidance in social control.

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[1] This section of the report was prepared by H. B. Wilson, superintendent of schools, Berkeley, California. He acknowledges indebtedness to Miss Ruby Minor, supervisor of elementary grades, Berkeley, for many of the illustrations which are presented.

The kindergarten pupils who organize an orchestra are acquiring not merely a knowledge of musical instruments, an appreciation of rhythm and harmony, but what is of equal value, (1) an attitude of respect for the social group, (2) the ability to work under the direction of a leader, and (3) the satisfaction which comes from individual participation in a group enterprise.

While all of these results will not necessarily carry over into later life, they can be realized at any time only to the extent that the group realizes them as aims that are worthwhile.

How can the teacher help most?—Throughout the character-building process the teacher occupies a guiding, controlling relation to the experiences of his pupils to the end of securing the ethical values which may be derived from these experiences. His guidance and stimulating influence help to reveal the value of materials and activities and the abilities possible of attainment to his pupils, long before the child working alone would realize them. The teacher, likewise, aids the economy of the child's effort by guiding him into what will best satisfy his needs. The teacher's guidance also insures thoroughness of mastery and richness in values, without undue waste of time and effort on the pupil's part. The first grade pupils who have become interested in animals, by seeing a circus parade, would not necessarily acquire character education; but when the teacher encourages this interest by guiding the conversation, thereby stimulating this interest into further activities, the class is led into procedures that are meaningful, significant and purposeful.

By surrounding the pupils with pictures of animals, they conceive the idea of drawing and of paper-cutting, to illustrate the part of the parade which they enjoyed most.

They plan a parade of animal cut-outs, which furnishes so much pleasure that they decide to make a motion-picture reel and invite the second grade to share the fun.

In all of these activities the pupils are acquiring not merely a fund of knowledge in regard to this subject-matter—animals; not merely language and reading habits that are fixed through spontaneous contributions that are utilized for silent and oral reading lessons; but they are also acquiring ability to evaluate in terms of a definite purpose.

Only animal cut-outs that are carefully made can appear on the reel. They can be carefully made only when each individual pupil has learned to be responsible, (1) for the care and use of materials, (2) for honest effort, (3) for persistence, (4) for intelligent acceptance of group decisions.

When the second grade come as guests, there are not only opportunities for the practice of the usual social courtesies, but the planning and participation in any activity of this kind, affords opportunity for a recognition of, (1) the rights of others, (2) the value and necessity of leadership, and (3) the unselfish participation in group achievement.

When this interest widens and includes a trip to the zoo, the pupils get their first conception of conforming to group control in larger affairs than those of the school building. Rules of conduct in the street, in the street car and in the park, are discussed and definite standards are set up, not by the teacher, but by the class, with reasons given for each item contributed, and free discussion is encouraged to insure class interest and responsibility.

After the excursion trip, there is a definite class period given to checking the group on the maintenance of the established standards, with emphasis upon property rights, kindness to animals, respect for public officials, etc.

During all of this procedure the teacher has provided the interesting story, the pertinent fable, the simple poem or the attractive song, which emphasizes the particular ethical value that is being developed, either as an attitude or as a useful habit.

How does group activity contribute to character development?—The educative values of all sorts are greatly enhanced for each pupil by the fact that he is working all the while as one of a social group. Not only is each pupil stimulated to effort by the other members of his group, but he benefits by living in proper ethical relations with his fellows. He orders his conduct and makes his contributions influenced by the standards of the group and likewise is trained to benefit from the contributions of his associates with appropriate response. The benefits to the moral life from such cooperation are fundamental and far-reaching. Particularly valuable are the effects on each pupil of the approval and disapproval of his contributions and conduct by the members of his group.

Although the teacher occupies the relation of leader and guide in the classroom, the pupils should be as little conscious of any superior power residing in the teacher as possible. Teacher and pupils should work in the spirit of democratic cooperation. The group should work freely and intimately as a unit, each helping and receiving help. Together they should constitute an integral community, each striving earnestly for the benefit of all.

From the outset it should be borne in mind that our concern herein is not to show how the classroom experiences of the above type will aid in the realization of all the ends of education in the lives of the pupils. Rather, it is the purpose to show how they promote the development and establishment of ethical character. Each of the five characteristics above will be discussed briefly in an effort to show the importance of the characteristic if the child's experiences in the classroom are to aid in the development of ethical character.

The things which pupils do in school should be meaningful, significant and purposeful to them if they are to exercise large educative effects. It is a well-known fact that a child can learn or master best, if not only, those things which have meaning to him. The old law of apperception and Thorndike's laws of readiness and effect, emphasize this basic principle of learning. The clearer the child sees the need of something to be learned, the more definitely he perceives its value to him, the more active will he become in mastering it.

A high sixth grade had been led to think of themselves as leaders in their school. Through careful guidance they assumed an attitude of protection and kindly interest toward the younger children. The teacher felt that there was a decided need on the part of these sixth grade pupils for a keener interest in reading.

Utilizing an interest already productive of favorable results, namely, their attitude of school leadership, the teacher encouraged their desire to give a farewell play before they should leave the school by transfer to Junior High School.

In class conference the pupils decided that a morality play would be something new, and would be a fitting close to their elementary school experience.

The cast of the play included The Demon, Grandfather Ambition, World Mother and her seven children, Laziness, Easily Swayed, Discontent, Disobedience, Forgetfulness, Unappreciativeness, and Giving Up.

The class decided to search available material for stories that would illustrate the moral principle which each character wished to emphasize. They were thus acquiring a real experience with the best literature through an activity in which they had a specific purpose.

The stories were told in class and their relative values passed upon by class decisions. A story-telling contest was suggested as a part of the farewell program.

It is obvious that the procedure in the class recitations during the preparation of this project, was of such a nature that the five characteristics heretofore mentioned, were realized.

The things which the child does not now know, or which he is unable, at this time, to use, but which he really needs and which would be meaningful if he saw their relationships, become apparent, especially to the fundamentally trained teacher, in a variety of ways. They become apparent from the questions he asks, the problems which confront him, the difficulties and obstacles which he encounters when he tries to do things which he is not yet adequately equipped to do, and the needs he feels as he tries to do things which are beyond his abilities. Often his great need will be evident to the trained teacher even though the child cannot express it as a question or state it as a problem, because it is too vague, too lacking in definiteness to him.

Anything a child tries to learn in order that he may answer earnest questions he has asked, in order that he may find solutions to the problems he has met, in order that he may overcome some obstacle or difficulty that blocks his progress, is undoubtedly meaningful to him. It is significant to his life. It is needed in achieving some purpose of his own. What he wants to do is often meaningful, primarily only in satisfying his desire for rhythm, exercise, repetition. He may not have interpreted its values any more deeply than to wish for such effects. If what the child is seeking to do, however, is legitimate and right, as measured by good and acceptable social standards, his acquisition of the desired ability will aid his progress in the development of ethical character.

Only those learning situations which are definitely and truly meaningful, significant and purposeful to the learner, are genuinely ethical in the opportunity for learning which they afford, and it is only out of such learning conditions that satisfactory results, from ethical standpoints, may be expected. This applies also to his observance of the disciplinary and social standards of the school. They should be so presented to him, or be so developed with him, that he sees the need of them and the value to him and his associates of observing and maintaining them. Efforts to induce learning when the learner's attention is directed to the mastery of something, or to the doing of something that he has not shown a need for, or that he does not see the use of, attempt to force upon the experience of the learner, materials, tools, and standards which are too foreign and external to him. He, therefore, tends to avoid or repel them in order to pursue something else, or to proceed in some way which, to him, honestly appears more interesting and valuable. If, however, the procedure in use compels him to set aside his own standards of interest and value, he stimulates interest and concern in what is forced upon him. Under these conditions the learner becomes, at least in some measure, hypocritical and insincere. His effort lacks genuineness and is not wholesouled. His interests are divided, as Dewey shows in his "Moral Principles." The learning situation is not a genuinely honest one and the ethical training results are unsatisfactory. Often they are definitely negative, giving the child a dislike for something that may be centrally and fundamentally important in upbuilding the ethical life.

The evil effects of doing under compulsion what is lacking in genuine meaning and real significance to the learner is manifest in a variety of results which may be observed in schools and elsewhere. All have observed how children have formed a positive dislike for some topic or subject which they were forced to study without adequate motive for its mastery. One reason pupils often dislike composition writing is because the writing they do is to serve no purpose except to meet the teacher's requirement that each pupil shall turn in a one-page theme. Many pupils have assumed a deep dislike for trying to read or talk before the school, because they were forced to do it when no actual condition existed making such reading or talking necessary. There was nothing to be accomplished by it which the pupils desired to achieve. Similar illustrations might be added indefinitely.

In the light of the foregoing discussion, it evidently is of primary importance that, if the schools are to develop ethical character in children, the learner's efforts should, at all times, be directed to doing and mastering those things which he feels a need for, and realizes the value of, at least to some extent. Of course, no one should understand the foregoing to say or imply that the immature learner sees the full meaning or social significance of what he is learning, although his need of it may be very real, and his desire for it very great. Only in sincere, meaningful situations can the learner's efforts and attitudes be expected to be truly honest and genuinely sincere. Honesty and sincerity are intrinsic qualities in any situation which may be considered ethical, or from which may be expected any satisfactory ethical training results.

The least the school may do in its character training efforts, is to provide learning conditions which enable the pupil to be honest and sincere with himself. This condition obtains only when the pupil is able to realize that what he is trying to do is valuable to him. He should not be expected to believe this blindly because someone in authority directs him. He should be able to believe it because his experiences and efforts have led him in close enough relation to the thing he is trying to master, that he appreciates, somewhat, his need of it.

This first right of the pupil to have his personality, in its unity and honesty of effort, respected by those who seek to guide his learning and to establish right character, is basic to all other considerations, in promoting the development of rich, righteous human life. Indeed, all of the other four qualities which will be discussed below, are necessary because of this first requisite in any program of character development.

Classroom activities must be socially valuable—Not only must the experiences and achievements of the classroom be meaningful and satisfying to the learner, but in the second place, they should be socially valuable. They should be of definite life use to him at the time of their mastery, and in his later experiences. Such experiences will usually be more interesting and meaningful at the time of mastery. That which is socially valuable, is capable of being meaningful in richer, more varied ways.

The pupil's interests alone cannot be considered a sufficient guide in selecting experiences and subject-matter to be mastered in developing ethical character. The child's interests alone might lead him to wish to acquire some negative or anti-social quality or ability. Lacking adequate standards by which to judge values, a child may develop an admiration for someone who exhibits facility in one or more such anti-social tendencies. Mere interest in manipulating figures successfully, might cause the child to use time in acquiring facility in arithmetical processes which have little or no life use, as in solving problems in accurate interest, cube root, complex fractions, and the like. Similar illustrations in other fields of study will readily occur to the reader.

From the foregoing, it is evident that the school should exercise great care as to experiences and influences to which it permits pupils to be exposed in the process of education. Only those which have a real life use, or which accord with accepted social practices and standards, should be planned or accepted by the school as a part of the educative experiences of pupils. Under such care, and within such limitations, pupils should be encouraged to propose things to do which seem significant to them. From such initiative on their part come some of the most valuable educative influences of the school. Thus the child will be prevented, so far as the school is concerned, from spending his efforts on the useless. In this way the pupil's time is economized by the fact that it is not spent in doing things that produce anti-social effects, or that result in the acquisition of some knowledge or ability which has no life use. Not only may the school thus safeguard the pupil from negative effects, but, what is vastly more important, the contributions of the school may be made increasingly rich on the positive side by guiding the pupil in the use of all his time and talents in the acquisition of those abilities, qualities and standards which are essential in equipping him to live successfully in all relations, especially from ethical standpoints.

Classroom activities must be so carried on that they appeal to the whole child—In the third place, if the largest educative, socializing effects of all sorts, especially those that minister to the development of ethical character, are to be secured for its pupils by the school, the pupils' experiences and achievements must be so carried forward that they appeal in varied ways to the whole child, not merely to his intellect or some other partial aspect of his life.

Schools generally fall far short of what is much to be desired from this standpoint. The most common procedure in schools consists in assigning pupils something to be learned from a book or books. The result is considered satisfactory under this procedure if pupils acquire the ability to give back to the teacher, usually in response to questions, the facts, statements and points of view set forth in the lessons assigned. Such a procedure concerns the intellectual life of the child mainly, and this only partially. The child is called upon primarily to remember. Some experience in reasoning takes place occasionally. Under such a formal procedure, even when the text material assigned for study fulfills the first and second standards discussed above, it exercises very limited character-building effects as compared with what should be achieved.

In contrast with this formal, bookish, mechanical method, stands a well-tested procedure, in use in many progressive schools, in which the pupils learn in much the same way that mature persons learn when working freely, or without detailed directions. Under this procedure, the members of the class go about gathering information and improving their skills in order to do well, something for which they have accepted responsibility. For example, they may be preparing a program for a school assembly or a community meeting of parents. Or, they may be developing an exhibit of products at the conclusion of their study of the geography of the United States. Or, they intend to dramatize the selection at the conclusion of their study of a literary masterpiece. Their object in either case is to achieve certain results because they wish to make specific use of them.

The values accruing from such a learning procedure may be indicated by sketching in broad outline how the study of the geography of the United States takes place if it is to result in an exhibit of products at the close of the study. As the various sections of the country are studied, many sources are used—the text in geography, geography readers, magazines, publications issued by large cities and by states, encyclopedias and the like. Records are built up as the reading and studying proceed. When possible, specimen products are secured by the class. Many of them are gathered through correspondence. After the necessary information is accurately compiled and specimens available are ready, the plan to be used in organizing the exhibit is determined and put into effect.

It is hardly necessary to point out that a piece of learning so carried forward, would involve many demands for cooperative effort, with resulting ethical training effects of great value, if all conditions are kept right. No child could read all of the sources used, nor arrange all of the details of such an exhibit, alone. Division of labor must be arranged; the things to be done must be fairly apportioned to groups. The pupils should participate in apportioning the work. Each pupil and each group must work with accuracy and thoroughness, if the result is to be reliable and dependable. Reports to the entire class must be made by each group as its work progresses. Those reporting must exercise care to be clear, definite and honest in presenting their findings. Earnest, critical attention must be exercised by those hearing the reports. Questions must be asked to bring out meanings. Suggestions of further work and more complete evidence must be made to the reporting group. Other procedures involved in completing this undertaking are so obvious that they need not be detailed here.

This type of learning experience, involving such varied cooperation as it does, depends for its success upon genuine, whole-hearted effort upon the part of the various participants, the teacher included. If that is secured throughout, the entire experience of each pupil is highly ethical and carries with it the highest moral training values. The results accruing from such a learning effort are evidently rich and varied. A word of comment only is necessary here from this standpoint. Not only do the pupils master thoroughly the geographic facts and ideas which were the immediate object of the study, but by reason of the type of procedure and the wholesomeness of the pupils' attitude, many additional things are learned. The greatness of certain regions, and of the entire United States, is borne in upon the class. Further, as they work, they become interested in what they are doing and the purpose is set up to carry the undertaking through as well as possible. Not only is the final exhibit made accurate and adequate from the standpoint of the geography involved, but the pupils become anxious to display it attractively and then to have it seen by other classes, by parents, and by other persons, that it may do all the good possible.

The concepts and ideals of accuracy, honesty, thoroughness, helpfulness, fair play and the like, pervading such a learning situation, tend to be productive of the highest ethical effects. Teachers testify that a case of disorder practically never arises when the class is engaged in such a large and absorbing undertaking. Not only is everyone absorbed in doing his work so that he has not time for negative conduct; but the entire class becomes permeated with a spirit of helpfulness and of seeking to know and do what is right.

Classroom activities should command the pupil's whole-hearted effort—The largest ethical values cannot be secured to pupils unless integrity of effort and thoroughness of mastery are secured from each pupil. These qualities, so necessary in learning situations providing large ethical training values, have been so definitely implied in the foregoing, that merely stating them here is practically all that is necessary.

In studying the geography of the United States with the aim of organizing an exhibit of products, each pupil owes it to himself to do his work honestly and well, if he wishes to remain in his class. He also owes it to his classmates to do a piece of work upon which they can depend. Each pupil realizes that a fallacious or partial piece of work not only misleads him and gives him erroneous ideas, but gives his classmates false concepts and makes false conclusions inevitable from the entire undertaking. This realization of the principle that one's acts affect not only the actor, but all who are touched in any way by them, is one of the most central effects possible of achievement in the interest of ethical living. The pupil in school, working cooperatively for ends of concern to himself and his group, learns concretely that he lives not unto himself alone, but in binding far-reaching relations to his classmates and many other people.

Ethical training effects of the work of the school must be cumulative. Just as the child should add to his arithmetical abilities from grade to grade as he progresses through the school, so he should add to his habits and ideals of ethical living from year to year and improve his ability to work and live the righteous life. While this is not the place to suggest the progressive steps to be undertaken from grade to grade in developing ethical character, were it possible to state them, it is important to emphasize that the conduct of children should *improve progressively,* from grade to grade. As children mature, they should react ethically in increasingly complex situations. Their ideas of duty should become clearer and deeper as they mature, and their devotion to living the righteous life should become more and more complete.[1]

Character Education in the Kindergarten[2]

What is the objective of the kindergarten?—To provide the environment which offers opportunities for the exercise of desirable traits and to guide these activities so as to enable the child to gain conscious control of them is the objective of the kindergarten. The skilful teacher is clearly conscious of the standards to be established, is quick to insure the right reaction on the part of the child. He sees that the child feels annoyed in the wrong reaction and satisfied in the right reaction. The free association of kindergarten children deepens these impressions. This continued repetition affords an opportunity to foster right reactions until they have developed into habits of conduct.

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[1] In connection with this section the reader will find the following references of interest:
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Wilson, H. B., Kyte, G. C., Lull, H. G., *Modern Methods in Teaching,* Silver Burdett, Boston, 1924.

[2] This section of the report was prepared by Francis I. Giddings, assistant supervisor of training, University of California, Southern Branch.

What ten character traits are most important in the minds of kindergarten teachers?—In an effort to get some idea of the kindergarten teacher's estimate of the relative value of character traits, a list of twenty traits was mailed to sixty-five kindergarten teachers. This list was compiled from the report sent to parents by the Lincoln School of Teachers College, Columbia University. Each was asked to select from these twenty traits the ten which she thought the most important and to rank them. It is understood, of course, that such a narrow choice of desirable traits, ten, in no way implies the exclusion of traits not so included; rather the contrary. Answers were received from fifty-eight teachers.

Table 14 shows the number of times each trait was chosen as one of ten most important. In reading this table it may be helpful to remember that the teacher when speaking of truthfulness, is not in any sense thinking of it in the abstract—but of the child as being truthful in specific situations.

TABLE 14.—TEN MOST IMPORTANT TRAITS TO BE DEVELOPED IN THE KINDERGARTEN[1]

Trait	Frequency of Mention by 58 Kindergarten Teachers	Trait	Frequency of Mention by 58 Kindergarten Teachers
Truthfulness	51	Unselfishness	28
Respect for Rights of Others	47	Sense of Humor	27
Courtesy	43	Fairness	25
Cooperation	42	Consideration for Feelings of Others	24
Obedience to Authority	40	Group Responsibility	19
Responsibility for Own Acts	36	Conscientiousness	16
Dependability	36	Friendliness	15
Self-Confidence	32	Acceptance of Rules and Regulations	15
Punctuality	30	Straightforwardness	12
Cheerfulness	30	Leadership	12

[1] Column one lists the ten most important traits selected by 58 kindergarten teachers from the total list of twenty traits submitted to them. Column three lists the second ten traits. Each of these were mentioned from twelve to twenty-eight times.

Table 15 indicates the rank of each trait as one of ten most important as shown by ratings of fifty-eight kindergarteners.

Scientific research much needed in the field of character education—Table 15 shows the need of research into the trait values uppermost in the kindergarten teacher's mind for, clearly, there is quite an individual variation in stress revealed by this table. It shows that the range of distribution for each trait chosen as one of ten most desirable, was from twelve to fifty-one. That is, that in the group of fifty-eight kindergartners, the highest unanimity attained on any one trait was fifty-one and that throughout the whole range of twenty traits there was a surprisingly uniform distribution of stress—no one trait getting a unanimous stress and no one trait failing to get some stress. These findings are surprising. These kindergarten teachers believe in "obedience to authority" as a desirable trait of character. Forty of these fifty-eight teachers select "obedience" as one of the first ten and twenty-five percent of these place "obedience" in the very first rank. Is character formed when children obey authority or when they comply to a standard of conduct inwardly recognized by themselves as lovely and desirable? Again this wide varia-

	1		2		3		4		5		6		7		8		9		10		
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	Total
1. Acceptance of Rules and Regulations.	1	7	3	20	....	....	2	13	1	7	....	....	1	7	1	7	4	27	2	13	15
2 Cheerfulness	1	3	5	17	2	7	....	....	1	3	2	7	2	7	5	17	6	20	6	20	30
3. Conscientiousness	1	6	3	19	1	6	...	...	3	19	2	13	4	25	1	6	1	6	....	....	16
4. Consideration for Feelings of Others.	2	8	5	21	1	4	1	4	5	21	1	4	2	8	2	8	3	13	2	8	24
5. Cooperation	3	7	3	7	3	7	5	12	6	14	4	10	8	19	2	5	4	10	4	10	42
6. Courtesy	2	5	1	2	2	5	4	9	9	21	8	19	3	7	3	7	10	23	1	2	43
7. Dependability	3	8	4	11	5	14	6	17	3	8	4	11	4	11	4	11	2	6	1	3	36
8. Fairness	2	8	5	20	2	8	1	4	2	8	....	....	4	16	5	20	2	8	2	8	25
9. Friendliness	....	....	...	....	...	....	3	20	1	7	1	7	1	7	2	13	1	7	6	40	15
10. Group Responsibility	....	....	2	11	2	11	1	5	1	5	....	....	4	21	3	16	4	21	2	11	19
11. Leadership	....	....	....	....	..	....	....	....	1	8	1	8	....	....	3	25	4	33	3	25	12
12. Obedience to Authority	10	25	5	13	8	20	1	3	4	10	1	3	2	5	3	8	4	10	2	5	40
13. Punctuality	2	7	....	...	....	....	6	20	3	10	6	20	...	....	3	10	2	7	8	27	30
14. Respect for Rights of Other	13	28	7	15	9	19	9	19	3	6	4	9	2	4	....	....	....	....	....	....	47
15. Responsibility for Own Acts	3	8	8	22	6	17	4	11	4	11	5	14	1	3	4	11	1	3	...	...	36
16. Self-Confidence	3	9	.	...	...	...	4	13	1	3	....	...	6	19	5	16	3	9	1	3	32
17. Sense of Humor	...		..	..	1	4	3	11	5	19	3	11	2	7	2	7	....	....	....	....	27
18. Straightforwardness	1	8	1	8	1	8	....	....	...	....	4	33	1	8	1	8	3	25	...	...	12
19. Truthfulness	11	22	6	12	12	24	5	10	5	10	4	8	5	10	2	4	1	2	....	....	51
20. Unselfishness	1	4	....	....	2	7	3	11	5	18	4	14	4	14	5	18	2	7	2	7	28

Read Table as follows: No 14.—Respect for Rights of Others selected as first in importance by thirteen persons, twenty-eight percent of total who chose it as one of the ten most important; as second in importance by seven persons, fifteen percent of total choosing it as one of ten most important, as third in importance by nine persons, nineteen percent of total choosing it as one of the most important, and so on.

tion in stress reveals the difficulty and danger of arbitrarily stressing any one trait or group of traits to the exclusion or slighting of others. Until accurate scientific research affords us more light we must keep open minds.

Illustrations of actual school situations where desirable character traits function—The study of some actual situations and the play of activities arising therein shows the spirit and achievement of the modern kindergarten. For this study the following examples were taken largely from the "Daily and Progress Records of Children" made by students engaged in practice teaching in the junior kindergarten, Training School, University of California, Southern Branch. Limitation of space in the Yearbook permitted illustrations for only ten of the twenty character traits discussed above. These ten illustrations show that all twenty traits function in practically all situations. The children themselves give evidence that they are conscious of standards of conduct. They apply them not only to themselves but to their playmates.

Truthfulness

Being honest with one's self

Harriet tumbled over a chair and said, "Old mean chair." When the teacher said, "The chair did not do anything," she stopped crying and said, "No, I did it."

Discriminating between fact and fancy

The children were discussing the things which they had done the day before. Elizabeth told an unusual story. Helen said, "Is that a true story?" Elizabeth thought a moment and said, "No, I just made it up."

Refusing to take credit for another's work

A visitor said, "Did you make that pretty doll dress?" "No, Mrs. R., Mary made it."

Respect for Rights of Others

Asking child to play with his toy

Margaret said to Vivian, "That's Kenneth's train, you'll have to ask him if you can play with it."

Realizing the right of priority

Mary was bouncing the only large ball. Betty wanted it. Helen said, "You can't have it Betty, Mary got it first."

Refraining from interrupting

While Louise was telling a story Jane thought of something she wanted to say. She fidgeted but did not interrupt. When Louise had finished she said, "Now, I can talk."

Courtesy

Keeping quiet when one is talking

David was telling a story. Evelyn interrupted. He stopped and said to her seriously, "You interrupted me. I will not talk while others are talking."

Requiring one to ask for a thing in the right way

Jane wanted a broom that Kathleen was using. She said, "Say please, Betty, and I'll give it to you."

Permitting girls to go first

"Ladies first" Billy remarked to the group as they came in from recess when all wished to take a drink at once.

Considering the person behind one

A child brought a picture book to show the children during the conversation period. He stood quietly before them for a minute and said, "Sit down, Betty, you are standing in front of Mary."

Obedience to authority

Obeying the teacher

Helen was leaving the room. Jane said, "Come back, Miss G. Spoke to you."

Phillip started to run. Mary said, "Miss G. said that we must not run in the halls."

It had rained. The children wanted to play in the sandbox. Betty said, "We are not allowed to play in the wet sand."

Paying attention to signals

The children were in the midst of a game. The bell sounded. Jack said, "Too bad we have to go in now."

Drinking milk for results

During lunch Jane said, "I just hate milk but I have to drink it. It makes me grow."

Responsibility for Own Acts

Putting blocks in place after knocking them down

Kenneth was building a house. Vivian accidentally knocked it down. She said, "I'll fix it. I knocked it down."

Getting out materials and putting them away

Betty had taken out an unusual number of toys. When time for outdoor games came she was ready to go but realized that her toys must be replaced. She said, "Please wait for me, Mary."

Cleaning up one's mess

In setting the table Ruth spilled orange juice on the floor. "I'll wipe it up," she said as she went for a cloth.

Punctuality

Gaining satisfaction from being on time

Johnnie came in as the bell rang. He said delightedly. "I am just on time every morning."

Responding quickly to a signal

During the free work period when the teacher struck a note on the piano, each child stopped instantly and listened to what she had to say.

Being ready on time

"Miss G. I must put my hat and coat on. My mother is coming for me at twelve o'clock."

Unselfishness

Giving up a picture book

Warren was interested in a picture book. Olcott wanted it. Warren said, "All right, I will get another."

Sharing blocks with others

Tommy, Don, and Jimmy were each building a house with blocks. Tommy said, "Don and Jimmy, you may have some of my blocks."

Waiting to use the hammer

There was a limited number of tools. Jack and Mary were using the same hammer. Jack's wagon was near completion. Mary said, "Go on Jack, I'll use it when you are through."

Letting another use his kiddy kar

Delafield brought a new kiddy kar to school. He said, "You can play with my kiddy kar, Louis."

Fairness

Taking turns on balancing board

The children were walking on the balancing board. Kenneth said, "Only one at a time is allowed. You don't push in, it isn't fair."

Treating all alike

Curtis picked up a silk worm. Mary said, "You must not do that. Miss G. told Jack he must not touch them."

Participation by all

In the rhythm work Allan said, "Let me show you how the elephant walks." Billy said, "'No, let Tommy. You showed us how the horse galloped."

Consideration for Feelings of Others

Distracting the attention from another's embarrassment

In the play Betty tripped and fell. She was about to cry. Jack said, "Oh, that's nothing. I fell on the street just like this." He proceeded to show just how he fell. Everybody laughed.

Encouraging another to participate

One little girl was timid in taking part in the rhythms. Another child took her hand and said, "Come on, Patricia."

Showing consideration for a smaller child

Margaret brought a caterpillar on a molva leaf. The children crowded around her. Jack said, "Let Augusta in front, she is the smallest."

Friendliness

Bringing things for others to enjoy

Robert came to school one morning carrying three toy boats. He said, I brought these boats for everyone to use."

Helping a child smaller than himself

Donald said, "I'll turn the faucet for you, Helen. You're a little girl and can't reach."

Doing work for another under her direction

Jane hurt her hand while she was making a doll bed. Curtis said, "You tell me what you want and I'll saw the pieces for you."

Dividing products in the garden with another

Mary entered late. She did not have a part in planting the garden. When the children were gathering the radishes to take home Jocelyn said, "We will all divide with Mary."

In all these situations marginal responses are evident. These marginal responses, apparently incidental, are really the most important of kindergarten life. They constitute character shaping, and by repetition involved in these activities mold character into its ultimate shape. If under skilled guidance such desirable responses are so readily accepted, we can expect that the repetition of these situations over a wide period of time will accomplish much. Is there any other place in our social life where the teacher can with such a single eye study and foster these marginal trends? Even the home provides no such opportunity.

The kindergarten's place, then, in our educational system is foundational because of its unsurpassed opportunities for character building. The experience thus gained from repeated decisions upon courses of conduct, and the actual reaping by the child of the results of his own decisions builds these accepted traits into the very fiber of his character. This positive approach to character training precludes less desirable or actually evil tendencies. Thus conduct, the foundation of character, makes for further conduct. The most superficial study of the problem of character training in the kindergarten reveals the great need of more clearly defined research along all lines. Research so far seems to reveal that the kindergarten fruitage is discernible only in the acquisition of formal skills. We should select for study two types of kindergarten—one in which formal skills are emphasized, the other in which modern life activities prevail. A comparative study of children passing on from these two types into elementary school would lead to important results. Such follow-up study has not yet been made but would constitute a most valuable line of research.

Character Development through Extra-Curricular Activities[1]

How right habits and ideals may be developed through definite courses in character education, through regular school subjects, and through classroom procedure has been discussed in preceding sections. This section shows that what a child does at school outside the classroom is of tremendous importance to his moral growth.

A few typical illustrations of extra-curricular activities, which because of their social setting, enthusiastic pupil support, and rewards received by individual pupils in the form of approval and disapproval of their own fellow students, offer large opportunity for development of habits of good citizenship.

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[1] For a further discussion of this subject see the extensive bibliography by Elbert K. Fretwell on "Extra-Curricular Activities in Secondary Schools" in *Teachers College Record,* Vol. XIV. No. 2. March, 1923.

Pupils in Berkeley, California, cooperate with city park commission and traffic officers.—These two reports from school principals are examples of pupil activities resulting in good citizenship.

> Our school building is on a hill exposed to winds from the Golden Gate and there is no fence. In spite of good intentions, when children eat their lunches out of doors, papers will get scattered about. To meet this situation "Citizenship Committees" of students daily gather up stray papers. Through these committees a sense of personal responsibility was awakened. The children were ready to respond in a practical way, when a call for help came from the city's park commission and the police department in the prevention of depredations in the parks and on the planted sidewalk areas.
>
> The sixth grade pupils immediately accepted the suggestion that they organize a Junior Park Commission and have special care of the parks in their own neighborhood. A president and secretary were elected by the children and there are regular meetings at which matters concerning the parks are taken up. Committees charged with the interests of particular localities were formed by the president. The reports of these committees are often most illuminating. For example, one lad told of his effort to teach a lady that she should not pull the asters in Live Oak Park. With a funny little smile he said, "I just kept politely with her until she went away."
>
> The officials of the Junior Park Commission attend some of the meetings of the City Park Commission. So successful has this work been that three other elementary schools, a junior high school and the senior high school have developed junior park commissions.

Opportunities for character education in a well-organized program of *Safety First* instruction with emphasis upon the social responsibility of each individual pupil are illustrated by this report.

> It was found by investigation that more than thirty-five percent of the pupils in the Columbus School had to cross the state highway, which has the heaviest traffic of any point in the city or county, and perhaps one of the heaviest in the state. To relieve the danger to school pupils, a special request was sent to the chief traffic officer of the police department. Having no funds to station a special officer at this danger point, the officer suggested that a group of older boys should be chosen to act as a traffic squad.
>
> The Business Men's Club in that community favored the idea and bought uniforms for ten boys, selected from the group of honor pupils. The squad is organized with a sergeant and two corporals. A third of the group leaves the district by promotion every semester so about two-thirds of the organization always remains as an experienced group.
>
> Traffic lanes have been established by the police department with gates that can be lowered by the squad. These lanes are about half way between corners to lessen the danger.
>
> Traffic squads are drilled by the chief traffic officer of the police department and are supervised by the principal, but they operate on an organization of their own. They recently sponsored an entertainment to secure funds for new uniforms.
>
> Not an accident has occurred in this community on the highway since the squad took over the work.

West Des Moines High School pupils develop an honesty creed—In 1924 the West High School adopted an Honesty Creed by a vote of the student council. This was followed by a ballot by the entire school in the "home room" periods. The creed was formulated after a number of discussions in each home room and in the student council by committees whose work was coordinated into the final statement. After the creed was printed, discussions were held from time to time in the home rooms, the council, and the assemblies with regard to it. It has been the subject of discussion in Parent-Teachers' Associations and essay contests have been held in school by these associations. Prizes have been given for the best essays. The last essay contest was on the subject, *What My Parents Think of the West High Honesty Creed.* The purpose of this was to insure a knowledge and an interest on the part of the homes in the community in the vital subject of honesty and especially as it applies to students' attendance and legitimate excuses for absence, which the home sends in writing to the school following the pupil's absence.

Evansville Central High School has had student government for nine years—The principal and the superintendent of schools describe the program of student government and discuss its problems as follows:

> In January, 1917, an experiment in student government was begun by the senior class of Central High School in Evansville. At first, about thirty-six students were involved, and the experiment continued on this small scale for about three years, gathering momentum slowly but rather surely, until in March, 1920, the plan, much extended in scope, was taken over by more than one thousand boys and girls of the tenth, eleventh and twelfth grades. All things did not go well under student government, but by 1922 it had broadened and established itself so thoroughly that teachers were no longer required to do police duty in study halls, corridors, lunch rooms, assemblies, or any other parts of the building, and the principal felt fairly safe in announcing that any of the two thousand students enrolled who felt that they had not received a just treatment from the principal could appeal the case to the Court of Prefects, the highest authority in student government, and that the principal would abide by the decision of the prefects.
>
> No particular form of student government organization is required, but the simpler the form, the better the chance for success.
>
> Emphasis should be always on the responsibility of the individual student to control himself at all times for the common good.
>
> Public opinion is the controlling factor, and the chief work of the principal and teachers is to stimulate public opinion and a civic conscience.
>
> Students take an interest in it because the problems are the most vital ones in their range of interests, but they must be given full responsibilities and actual powers. In this school there was no censorship by principal and teachers of the election of officers. Students nominated and elected the various officials without interference. They had the power to suspend or expel from school. Their trials were not open to any persons except students. Students were held responsible to student government for conduct outside school hours which might bring the school into disgrace or unpleasant notoriety.
>
> Student government will succeed anywhere if (1) the principal and teachers have faith in the abilities of boys and girls: (2) if they will be patient, begin on a small scale and be content to guide and advise, rather than direct and control.
>
> Student government trains specifically for at least two definite habits essential for good citizenship in a democracy: (1) The students talk over their problems with the common good in mind, arrive at a decision, and then see the necessity for abiding by the will of the majority. (2) They learn to select suitable representatives for carrying out the wishes of the school citizenry. The need of selecting

efficient public servants who will be faithful to their trusts comes home to them in a very vivid manner. There is good reason for one to believe that they will acquire the civic attitudes more readily through student government, dealing with important problems of their every-day contacts, than they will through any study of questions of national and international import which are far from the realm of their thinking.

Opportunities and pitfalls in student control—Superintendent Dorsey of Los Angeles with sympathetic and far-sighted understanding points out that teachers have a joint responsibility with students who undertake self-government. She writes:

> The rapid expansion of this phase of school life has sometimes led to hastily devised programs adopted in a spirit of "keeping up with the times," when there was need of profound understanding of the risks involved and of the precautionary instruction that should be given students who are to assume the new and untried rôles of governors of their peers and managers of school community affairs. No matter what the particular form of student control in a given school, it should never be entrusted to a new group of students without anticipatory instruction, for it is only fair to assume that those who are to be given such serious responsibilities need to have it called to their attention that:
>
> 1. Right conduct on the part of those entrusted with student control will go far toward securing right conduct in all others.
> 2. It is a wise thing for the inexperienced to show a certain fine reserve in the launching of untried procedures and a degree of reticence in the expression of untested opinions; that, on the other hand, there must be prompt decision and action in matters of positive right or wrong and no hesitation in the enforcing of regulations, which last should so far as possible emanate from the students themselves and be their own expression of the conduct norms that should guide a school community.
> 3. There must be no favoritism shown to friends and no vengeance meted out to those in disfavor; that accordingly the misdemeanors of a friend should not be overlooked and those of one disliked should not be unduly exaggerated and punished.
> 4. The over-zealous pursuing of offenders is as dangerous as a weak and indifferent policy.
> 5. Punishments should fit offenses, being neither too severe nor too light.
> 6. The aim in all government should be to secure self-direction and self-control on the part of the governed.
> 7. Nothing goes of itself, government least of all, and that the checking of a wrong school tendency in its incipiency is an easier matter than the mending of disastrous consequences.
> 8. As loyalty to country makes better citizens than does fear, so the inspiring of loyalty to the finest standards of the school will lessen the necessity of resorting to compulsion.
>
> To thrust upon the young the responsibilities of participation in school discipline, without such preparatory instruction and without frequent conferences over the problems that arise, is unfair and robs the activity of much of its value as ethical experience. On the other hand, when students enter upon those duties with understanding and a serious purpose to serve the school honorably and well, there is no limit to the value of the experience as an education: (a) in moral perceptions and judgment, (b) in the practicing of fair play, (c) in respect for the property and rights of others, and (d) in the realization of true school idealism, through unselfish service to advance the interests of the school group.

Lincoln School, New York City, a cooperative enterprise directed toward better human development. The following cooperative efforts have been encouraged:

1. Assembly exercises are conducted in part by students.
2. School programs for special occasions are developed by pupils.
3. Boy and Girl Scout troops are given regular place in the school activities.
4. Councils consisting of pupils have charge of certain school interests.
5. A Deportment Committee operating under the Council's direction, exercises care of certain aspects of pupil conduct. Other standing committees are as follows:
    a. The lunch-room committee is charged with the supervision of the appearance and conduct of pupils during all lunch times.
    b. The Bulletin Board Committee supervises the use of the bulletin boards so as to avoid conflicts.
    c. The Fire Drill Committee attempts the effective administration of fire drills.
    d. The Lost and Found Committee collects all articles lost in the building. The pupil in charge is paid for his services from the proceeds of fines levied for the return of lost articles and from the receipts from the sale of unclaimed articles.
    e. The Publicity Committee keeps the pupils informed of the work of the student council by making reports at class meetings.
    f. The Insignia Committee (Senior and Junior High School) has developed a system of giving recognition to pupils of unusual merit in citizenship, athletics and scholarship.
    g. The Deportment Committee aims to secure proper conduct in halls and elevator.
    h. The Library Committee assists the Librarian by imposing penalties when necessary, in collecting overdue books, discouraging careless handling of books, etc.
    i. An Employment Committee assists in finding work for those who desire it.
6. Clubs and musical organizations of several kinds exist under charters granted by the school councils.
7. School publications are issued.

Moral Codes and Character Education Plans[1]

The purpose of this section is to review briefly the various plans for character education that are now operative or in process of fundamental development, and to give sufficient information about their publication to enable anyone interested to secure copies. No attempt has been made to evaluate the various plans reported; consequently the order of their occurrence has no significance other than to indicate approximately the order of their first publication. There may be other plans completed or in process of construction, but as far as the committee has been able to determine this is a complete bibliography.

Code of Morals, William J. Hutchins, National Institution for Moral Instruction, Washington, D. C., 1917.

In 1916 a prize of $5000 was offered by an anonymous donor through the National Institution for the best plan for moral education not to exceed three thousand words. Fifty-two writers submitted codes. Professor William J. Hutchins, now President of Berea College, was awarded the prize.

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[1] The original draft of this section was prepared by A. J. Hamilton, principal, University Elementary School and lecturer in Education, University of California. Due to space limitation considerable revision of the original draft was necessary.

The first part of the full code is printed in two folders as follows:

(a) The Code of Morals for Boys and Girls. This folder contains ten laws, each of which is followed by three to five brief explanatory statements. The laws are based on: Health, self-control, self-reliance, reliability, clean play, duty, good workmanship, team-work, kindness, and loyalty.

(b) The Code of Morals for Young Men and Women. This folder contains ten laws with similar explanatory statements based on self-mastery, self-reliance, self-improvement, reliability, good sportmanship, duty, good workmanship, teamwork, kindness, and loyalty.

Character Education (The Iowa Plan.) Character Education Institution, Washington D. C., 1922.

The Iowa Plan is a $20,000 prize method for the development of character in public school children. It resulted from an interstate contest in competition with all the states of the Union. The plan is printed in a 46-page pamphlet.

This plan states the fundamental principles underlying character development with a brief explanatory paragraph under each principle, an analysis of the goal, the organization and control of the school to the end of the development of character, and some ways of preserving, directing and exercising the entire integrity of the child.

This is followed by methods and materials fitted to the child's development and suggested projects and problems for enriching the character training curriculum.

The Teaching of Ideals. W. W. Charters, University of Chicago, Chicago, Illinois, 1925.

In the manuscript for his book, Dr. Charters lists desirable traits of personality such as, accuracy, adaptability, aesthetic tastes, ambition, cooperativeness, courage, courtesy, cheerfulness, dependability, economy, forcefulness, farsightedness, friendliness, honesty, industriousness, initiative, intelligence, loyalty, open-mindedness, persistence, resourcefulness, self-control, self-confidence, tact, and thoroughness. Then follows a discussion of ways and means of developing these traits. His purpose is expressed as follows:

> In every chapter the point has been made with conscious deliberation that if ideals are to affect conduct they must be taught in connection with the appropriate trait actions through which they are expressed in the situation which confronts the child.
>
> The development of ideals is the most important task of the school. Honesty is more valuable than arithmetic, and industry is of greater importance than geography. Useful as information undoubtedly is, it is only a means toward an end, and this end is the proper development of the fundamental ideals.

A Basis for Character Education. P. F. Collier and Son, New York, 1925.

This plan consists of a twenty-page pamphlet, and an illuminated poster suitable for framing and display in schoolrooms. On the poster are listed the following desirable traits: Courage, hope, wisdom, industry, good habits, knowledge, usefulness, truth, honesty, healthfulness, cleanliness, helpfulness, unselfishness, charity, humility, reverence, faith, responsibility. A brief paragraph of explanation accompanies each of these.

The pamphlet consists of an introduction explaining the origin of this code, and ten prize winning essays on "suggestions for making the Moral Code for Youth a basis for character education."

Human Engineering. Pathfinders of America, 311 Lincoln Building, Detroit, Michigan, 1925.

The Pathfinders of America is an incorporated institution under the laws of the State of Michigan and among other objectives is established for the purpose of conducting study and correspondence courses in applied psychology for the building of character.

It has for its motto *To know the Law and Live a Life of Service to Mankind.*

The following titles describe the type of lessons distributed to Pathfinder Councils: Be Faithful to Yourself, Human Engineering, Man, Price Tags of Life, Personality vs. Individuality, Cause vs. Effect, and Mastership or Self-Control.

High School Character Education. Character Education Institution, Washington, D. C.

In this method of developing character there are five points of attack namely: the Squires and Brevard Morality Codes, the Ethics of Work, the Scientific Method, a Resolution by the Board of Education, and the Character Chart. The following briefly describe their use:

1. Have a mass meeting of all freshmen in each high school two weeks after school opens in the autumn, and present the Squires and Brevard Morality Codes, giving one copy to each student, as standard expressions of the morality of the high school and of the community. When cases of discipline arise, use these morality codes, as the background of argument and as the basis for appeal to the students to sustain the standards of the school. Make it the duty of the home room teacher to keep these two morality codes as vital as possible in the minds and lives of the students.
2. In the vocational department introduce the Ethics of Work as a standard code, giving one copy to each pupil. Have this code explained and enthusiastically supported by a series of ten morality talks by the teacher best fitted for this appeal.
3. Introduce into the science department the description of the Scientific Method, giving one copy to each student and requiring a series of talks from the science teacher best qualified for this appeal on the significance of the characteristics of the scientist and of the intellectual immoralities.
4. Prepare a resolution for adoption by the board of education, binding on principals and teachers of high schools, establishing the principle that no one shall be allowed to graduate from the high school and to have the honor of this approval from the board of education and the school superintendent who cannot be considered well developed in matters of American character.
5. At the middle of the senior year, present to the seniors the Character Chart, and request that each one make out his or her own character chart and then consult with some one of the instructors as to the accuracy and truthfulness of the self-made character chart.

Knighthood of Youth. National Child Welfare Association, Inc., 70 Fifth Avenue, New York City, 1925.

The Knighthood of Youth is rooted in a knowledge of the child mind and is based on the following well-known truths: Character is not a "happen so," nor is it the result of merely theoretical knowledge. Like skill or strength, it is acquired only by regular, daily exercise.

Definite ideals, visible reminders and results are necessary if the child-is to keep on undiscouraged and without wearying.

The Knighthood of Youth embodies the principles just mentioned in a series of character training exercises. These exercises are shown on an attractive chart, on which the child checks daily, with his father's or mother's help, his success or failure in such matters as putting away toys and tools when through with them, replying courteously when addressed, respecting others' property and being friendly and helpful.

The charts are five in number, graded according to the age of the user, but on every chart the twelve exercises embody the twelve fundamentals of good character, namely: Obedience, Carefulness, Reliability, Self-Reliance, Neatness, Politeness, Honesty, Self-Control, Good Temper, Kindness, Helpfulness at Home, and Thrift. Each chart is sufficient for keeping the record during sixteen weeks.

Feats and titles are a part of the plan. A "feat" is the successful performance of 50 exercises (out of a possible 72) in any one week. When the child has performed 12 or more feats—at the discretion of the teacher, he is given the title of Esquire. Later the titles of Knight, Knight Banneret, and Knight Constant are successively awarded, each carrying with it a badge bearing the picture of some hero of character.

Periods of 12 weeks in each semester or a total of 24 weeks during each of the four school years are recommended. The course is designed especially for the 4th, 5th, 6th and 7th grades.

A Character Education Plan. Professor L. Thomas Hopkins, University of Colorado, Boulder, Colorado.

Under date of November 21, 1925, Professor Hopkins wrote describing his progress on a plan of character education as follows:

> These are the twenty-nine traits underlying good citizenship which I derived a year ago:
>
> 1. Morality
> 2. Good Health
> 3. Honesty
> 4. Initiative
> 5. Adaptability
> 6. Judgment
> 7. Industry
> 8. Responsibility
> 9. Self-control
> 10. Courage
> 11. Service
> 12. Cooperation
> 13. Open-mindedness
> 14. Happiness
> 15. Thoroughness
> 16. Appreciation of beauty, people, humor
> 17. Desire for improvement
> 18. Sympathy
> 19. Punctuality
> 20. Courtesy
> 21. Foresight
> 22. Tact
> 23. Self-judgment
> 24. Reverence
> 25. Unselfishness
> 26. Neatness
> 27. Sociability
> 28. Thrift
> 29. Generosity
>
> Since that time I have continued the analysis further and have arrived at what I believe to be the first ten from the standpoint of importance. These are: honesty,

judgment, responsibility, industry, courtesy, self-control, courage, initiative, thoroughness, with punctuality, tact, and adaptability having the same frequency for tenth place.

Methods of derivation were as follows:

First, a list of 280 traits which have been assigned by writers and others as of value to individuals, was collected.

Second, elimination was made on the basis of definitions, use, values, and overlapping of meanings.

The third step was to define these tentatively as a basis for determining relative frequency.

The resulting list of the 74 remaining were submitted to all of the teachers in the Denver schools, from which by statistical methods the list was reduced to thirty. Since that time I have had these rated by 500 business and professional men in Colorado, and the list of ten above represents a combination of the values assigned by the teachers and business men.

My method of procedure in teaching these would be first of all, to analyze each trait into what Charters calls the trait actions. This step has been completed. The next is to locate school situations in which these trait actions are involved. This step has been completed.

Then these situations have been graded for the different school years, type lessons have been organized, and the work has progressed now to a point where by the end of this year we expect to have finished a definite course of study which we can put into the hands of teachers in order that they may develop these virtues or traits in each individual pupil.

Research in character education—Several universities are carrying on research in character education. Among them are Teachers College, Columbia University, University of Chicago and Iowa State University. Space permits only a brief description of the work under way at the University of Iowa.

Research in Moral, Civic, and Religious Education at the State University of Iowa[1]

Research station in character education established—Interest in the problems of character education, religious education, and education for citizenship has been rapidly growing at the University of Iowa during the last two decades. Every year during that time graduate students have been working for advanced degrees in these subjects in preparing for a career in some form of religious or educational leadership. A special interest has been shown in one or more phases of these problems by the College of Education, and in the College of Liberal Arts by the Department of Psychology and the Department of Philosophy.

The attack on the problems involved in character education and religious education has been mainly under the direction of Professor Edwin D. Starbuck of the Department of Philosophy. An impetus was given to the interest in moral and religious education when a committee of Iowans under the chairmanship of Dr. Starbuck won the decision in an interstate contest for the best statement of methods of character education for the public schools.[2]

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[1] This section was originally drafted by Ernest Horn, professor of education, University of Iowa. It is to be regretted that space limitation demanded that it be shortened to this brief account.

[2] The report is entitled, *Character Education Methods -The Iowa Plan.* The National Capital Press, 1210 D Street, N. W., Washington, D. C.

Two years ago a Research Station in Character Education and Religious Education was established under the auspices of the graduate college and the department of philosophy and psychology. It enjoys the cooperation of the College of Education and of the Child Welfare Research Station. It has a working library of about five thousand volumes. Professor Starbuck is in charge. A brief description of the various lines of inquiry directed by this station follows:

Moral situations classified by analysis of laws and competent judges decide desirable ways of meeting common moral situations—During the last two or three years, research in social studies in the field of elementary education has shifted from an attack on the problems involved in history and civics over to the problems involved in the direct teaching of moral education and elementary citizenship. In the attempt to discover the most important and permanent values in moral education and elementary citizenship, investigations have been organized under two hypotheses: First, that the main outline of the chief classes of moral situations can be obtained by an analysis of laws; and second, that useful data concerning what is most needed in any community can be gotten by use of the method of supposedly competent judges who are asked to make judgments regarding desirable and undesirable ways of meeting common situations involving a moral problem.

The first hypothesis, that of utilizing laws as an index of the main classes of moral situations, was formulated with the following assumptions: First, that every type of serious maladjustment between individuals, between individuals and communities, and between communities tends to get written into a law. Exceptions are to be found in a few maladjustments concerning which it is not easy to get evidence which would stand before a court, or in which the difficulties of administering justice are so great as to make the attempt impracticable. Such a maladjustment, for example, is that found where one individual by neglect, snubbing, and by attitudes injures the feelings and morale of another. Second, it assumes that the human race by trial and error has attempted to work out an ethical solution to the maladjustments practiced before the court. Third, it assumes that for several hundred years a critical study of how to improve these adjustments has been made by some of the finest minds the world has known. So far the work on this hypothesis has been limited to a study of the detail of codes and an examination into the history of the law in order to see the degree to which law seems to be approaching a statement of the most ethical solution to the various problems covered by law.

Common situations involving desirable and undesirable conduct listed—In the use of the method of judgments an attempt has been made to get a list of situations involving a moral problem by means of two questions, each of which was answered by a hundred competent persons who had been trained to do the work. The two questions follow.

First, think of the man or woman who would be the greatest loss in your community if removed from the community by death or for any other reason. Make a list of the things that this individual does to make him so valuable as a neighbor and as a member of your community. Be concrete and specific. The mere statement of qualities such as honesty and open-mindedness is not what is desired.

Second, think of the individual man or woman that your community would be best rid of. Make a list of the things which this individual does to make him so objectionable in the community. Be concrete and specific. The mere statement of qualities such as dishonesty and intolerance is not what is desired.

So far all that has been accomplished is to get a long list of desirable and undesirable conduct patterns in typical situations involving a moral question, and to organize these tentatively into main classes of situations. The next step will be to determine the relative importance of each of the main classes of situations as well as of each of the situations in each class.

Common moral situations faced by chidren studied—In the effort to determine what the instruction should be in moral and civic education at each period of the child's development, two procedures are being used. First, after a year of preliminary study the staff of the University Elementary School and the seminar in elementary education made a relatively complete inventory of the moral situations commonly confronted by children. This list is being made the basis of experimental teaching in the University Elementary School. A careful study of actual moral situations arising in the life of children is also being made.

Determination of effective methods to be used in the direct teaching of morals and elementary citizenship—For the past two years the effort of the staff of the University Elementary School has been directed to preliminary formulation and trial of a variety of methods of direct teaching. This, of course, is preliminary to the formulation of more refined experimental techniques. Each teacher has been asked to try to answer for each moral situation considered, the following questions: First, Is this lesson as definite and understandable as are other lessons taught to your pupils? Second, Are these lessons as important as those in other subjects either as measured by their influence on the child's present life, or as measured by the child's probable future needs, or as measured by the good of the community as a whole? Third, Do the children find it as easy and as acceptable to set up purposes in these lessons as in the lessons taught in other subjects? Fourth, Do these lessons as certainly affect the present conduct of the child, both in and out of school, as do the lessons taught in the case of other subjects? Answers to these questions have been obtained from teachers in every grade from kindergarten to, and including, grade six. Almost without exception each of these questions is answered by each teacher in the affirmative. These data, of course, represent nothing more than the judgment of the teachers. Each of these teachers, however, was asked to be as critical as possible in evaluating the results of direct instruction in these moral situations. The next step will be to get objective data regarding each of these questions.

As to the broad outline of method, the experience of the staff of the University Elementary School has led to the tentative formulation of the following principles to be used for the present in the teaching of moral conduct:

1. Start with a concrete situation frequently met by children and easily understood by them.
2. Let the children diagnose this situation and state in their own words the problem involved.
3. Let the children formulate and carry out under the stimulation of the teacher a plan for right action. It is important that the teacher realize that the ability to diagnose a situation and plan a right action without help from her is the only safe index of whether or not the pupils are ready to work on this problem.
4. Stimulate the pupils to make a list of other situations involving the same principle as the situation which they have just met.
5. Lead the pupils if possible to generalize upon all of these situations and state the principle and the ideal involved in them.
6. Stimulate the pupils to formulate a plan for continued right action in all situations of the type which has been studied.

Sample lessons, based on the above principles, are now appearing in the *Midland Schools,* which is the official organ of the Iowa State Teachers Association.

Rating Plans as a Means to Character Education[1]

If a child is to become the best possible member of the social group in which he lives, he must have opportunity for and training in right personal and social adjustments. His future success or failure will be measured not by what he knows, but by his total behavior which involves what he does and how and why.

In the past pupil records as made or kept in the schools, or as placed on report cards, have consisted largely, and sometimes exclusively, of ratings or marks on acquired information, plus the number of days absent and times tardy. There have been few statements to indicate capacities, interests, attitudes, and habits. A marked movement is evident in the schools throughout the country in recent years to develop some form of analysis and report which shall give a measurement or rating on what is variously designated as character traits, personality, citizenship, or good habits.

These schemes involve at least four general methods of approach which may be listed as follows:

1. Objective measurement by means of tests.
2. Rating of general traits or habits by the teacher or by a group of teachers.
3. Rating of traits or habits by the pupil.

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[1] This section of the report was prepared by Virgil E. Dickson, assistant superintendent of schools, Berkeley, California.

4. A point system by which points may be added or subtracted, according to meritorious or undersirable behavior.

Objective measurements—Several tests have been devised to measure character traits or factors involved in personality but no test has yet been generally accepted as being reliable or practical for school use. Outstanding authorities in the field of measurements such as Thorndike, Terman, Rugg, and others, maintain that there is not only the need for such tests but that they doubtless will be developed soon.[1]

The practical school man may at present dismiss the idea of using objective tests to help him measure character traits in his pupils for not even those who are devising these tests recommend them for general school use under existing conditions.

The rating of traits by teacher or pupil—The rating of traits or behavior by teachers is widely used at present. An analysis of the report cards from all sections of the United States reveals that a major portion of them have some provision for checking or rating, included under such headings as: Habits and attitudes desirable for good citizenship, factors determining success or failure, citizenship, habits and attitudes, and deportment.

On some report cards we have a list of words such as: Obedience, honesty, courtesy, cheerfulness, industry, neatness, self-reliance, cooperativeness. On others are descriptive sentences, for example: Sits, stands and walks correctly; take care of materials; responds to requests promptly; expresses himself clearly; finds original ways of doing things; works faithfully; does not sulk; works and plays with others harmoniously; and respects the property of others.

In some schools, these words or sentences are marked: A, B, C, D or 1, 2, 3, 4, in the same manner as are the subjects, reading, arithmetic, and spelling. The preferred plan, however, seems to be a check mark placed after those in which improvement is seriously needed, and a plus mark after those in which improvement has been shown. When performance is satisfactory the space is left vacant.[2]

Some schools, particularly high schools and junior high schools, employ a scheme whereby teachers rate the pupils (sometimes the pupils rate themselves) on a "personality chart" or "traits and attitude chart." The chart has listed such traits as industry, accuracy, initiative, quickness of thought, control of attention, retentiveness of memory—each trait being defined or illustrated by two or three sentences indicating what is to be taken into account when the rating is made on that trait. Provision is made for a ranking on a five point or seven point scale or from minimum to maximum in each trait. A profile graph can then be drawn indicating visually in what respects the pupil rates high or low. The rating scale of the Pasadena City Schools illustrates the use of this kind of card.[3]

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[1] See—"Present Status of Character Measurement," by Symonds, P. M. *Journal of Educational Psychology,* Vol. 15, 1924. p. 484.

"Is the Rating of Human Character Practicable," by Rugg, H. O. *Journal of Educational Psychology,* Vol. 12, p. 425, 485, and Vol. 13, 39, 81.

[2] Some of the schools illustrating the use of such cards are as follows: Kansas City, Missouri; Horace Mann, New York; Los Angeles, California; Berkeley, California; Lawrence, Kansas.

[3] See *Educational Research Bulletin,* Pasadena City Schools, February-March, 1925.

In some school systems the pupil is asked to rate himself on the same kind of card as that used by the teachers. A counselor or adviser then has a personal conference with the pupil comparing the ratings of teachers and pupil. Thus the pupil is led to turn the search light in upon his own behavior as measured by his own ideals and to compare his judgments with those of several teachers who have had opportunity to observe him and record their judgments.[1]

The point system—The Point System or Merit System is being tried out in a number of high schools. The purpose of the system is variously described as furnishing a basis for marking a pupil in "conduct," "character" or "citizenship." The plan involves starting a semester with one hundred points to the credit of each pupil, from which points are deducted for certain misconduct according to a scale which is usually proposed and adopted by the student body. Likewise, service points or merit points may be added by certain meritorious conduct of the student. The report card provides for a record of the points earned under the heading, "conduct" or "citizenship."[2] A specified level in citizenship is required to be eligible to certain honor societies or to school teams or student body offices, or even to graduation. A serious danger is noted by critics of the point system, who urge that motive is the most important element in conduct looking toward character education, and that the motive stimulated by the point system is frequently very undesirable, in that the pupil is tempted to direct his efforts toward the mere gaining of points rather than toward the development of desirable character traits.

The foregoing illustrations are indicative of practices in our schools in an effort to get what may be termed "character education" through rating plans or report cards, whereby a marking scheme may be employed to call attention to character development in a similar manner to that employed for scholarship.

The question is raised, "Is the rating or marking of character traits practicable?" Opinion is divided on this question. Undoubtedly habits of conduct, attitudes, ideals, and interests are subject to change through the emphasis which the school may give. It is argued that the attention of the pupil and teacher is drawn more strongly to those features of school life in which marks are given, and that desirable traits of personality must not be left to develop by accident. Positive steps must be taken to call attention to desirable habits of good conduct. The rating plans are all designed to do this and those using them believe that they are helpful.

Such habits as industry, cooperation and honesty are essential to success in school or in life. They do not come by chance but grow out of daily experiences through which they are called into play. They should be consciously emphasized as a regular part of the pupil's record of development in school or at least they should take a share of the emphasis along with that for scholarship and skill. The recognition by the pupil of his deficiencies and his strengths is the first step toward self-improvement. Such recognition may come from teacher ratings, but it is particularly emphasized by the plan of self-rating.

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[1] See card used in the Oakland High School, Oakland, California.

[2] For illustrations of the Merit System or Point System in operation see: *Handbook* of McClymonds High School, Oakland, California, and *Student's Handbook*, Piedmont High School, Piedmont, California.

It is argued by opponents of character rating that "traits of character" such as honesty and industry are abstractions and do not exist as habits, hence, cannot be measured or rated; that they vary from day to day and from one situation to another. This is undoubtedly true, yet our characters are measured by those who discuss us, associate with us in daily life, or employ us whether they are friends or enemies. They use such adjectives as honest, dependable, self-reliant. They ask about our honesty, truthfulness, and industry. The opinions of people have an influence. Rating schemes by which the opinions of conscientious teachers, who are close to the daily lives of pupils and who have many observations from many activities, are undoubtedly capable of such refinement and development as to be of practical use. We must consciously develop desirable traits whether the method be direct or indirect. It must at least be systematic if we are to secure a high measure of success. The objectives of education, which include the cultivation of habits, attitudes, and interests, will be more easily attained when these become a part of that which constitutes the student's record.

The writer is aware of the difficulties of attempting to analyze character traits or to measure or to rate them, yet the fact remains that one individual can be observed to have the habit of industry more than another in meeting the situations of a day, a week, or a semester. The same is true with reference to other traits. If an individual shows honesty or industry only on specific occasions or with specific problems then that is worth noting. Although the rating schemes for conduct or character are imperfect and are subject to logical criticism, they represent a working tool which can be used to some advantage in calling attention to growth in desirable habits and to the avoidance of bad habits. If such schemes are used wisely and with emphasis on keeping right motive behind all conduct, they furnish a usable tool for character education in the hands of the teacher.

The Means and Meaning of Character Education[1]

The Quest of the Best—"Only the best is good enough for a child."—Goethe.

"What the wisest and the best parents desire for their children that should society desire for all children."—Dewey.

Character education is education at its best. If there were anything better that is what those most interested in character education would be going after. The importance of good moral character is recognized by all intelligent persons. It is necessary for the success and happiness of the individual and also for the safety and progress of society. The wisest and the best educators are not only willing, they are anxious to do everything that can be done to help all children make the most of themselves.

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[1] This section of the report was prepared by C. E. Rugh, School of Education, University of California.

The processes of character development go on in whatever parents, teachers, and pupils do. The alternatives are *not* character or no character. The alternatives are better or worse character. The problem facing educators is how to achieve the best.

The procedure in character education is what parents, teachers, and pupils do consciously and from a set purpose to improve individual and group behavior. Those who would direct and control conduct in the interests of better behavior must undertake to understand and employ the principles involved. These principles must be understood in their relations to one another and also in their several relations to the total organization of the person's character. Character education involves all the fundamental principles of education at their best.

The best possible character in any particular person is achieved by the best possible conduct in each and every case or situation requiring individual or group reactions. There are three sets of principles:

First, there are the principles for developing in each pupil and each organized group of pupils the *disposition* to do the best that can be done under the circumstances.

Second, there are the principles for discovering and developing the *ability* to do the best that can be done under the circumstances. This is the intellectual aspect of conduct.

Third, in a changing world like ours and in a social situation like the present, it is practically impossible to carry out the first two sets of principles so successfully that there will be no mistakes and no failures. There is, therefore, a third set of principles necessary: the principles for recovering from mistakes and failure.

These three sets of principles are grounded in the very nature of child life and child development and in the nature of parenthood and teaching.

1. The primary and fundamental characteristic of normal, healthy children is to be active.

2. This activity is accompanied by the appropriate emotional concomitants.

3. These concomitants furnish the physiological, psychological, and sociological groundwork for a system of values.

4. The third set of factors in the organization of experiences is the body of knowledge which becomes by its very nature an instrument of direction and control. By reflection and purposing there arises an integration of experiences which desires and secures satisfaction through successful action. Children desire and deserve to succeed—desire to do their best.

In the second place, these fundamental principles of character education are native to good parents and good teachers. They desire to help children succeed. They are limited by their knowledge.

Elements of Conduct

Though a person is the most complicated thing we know and though a school is the most complex social organization there is, modern psychology, sociology, and pedagogy, have furnished a comparatively simple and effective formula for (1) explaining, (2) interpreting, and (3) evaluating human behavior and school procedure. This formula consists of three centers of reference: (1) the agent, (2) the situation, and (3) the responses between agent and situation. It is no accident that these are similar to the factors involved in biological sciences. It will indicate the unique characteristic of human behavior to point out briefly the differences between these terms and the corresponding terms in biology. The biologist treats of organisms, environment, and adaptation. In human affairs the *agent* is more than an organism. (1) The agent is conscious, purposeful, represents self and other selves. (2) The factors external to the agent here designated as situation include all the forces or powers to which the agent is sensitive and responsive. Many of these forces are plastic to the needs and purposes of the agent. (3) The interaction of agent and situation might be thought of under the term adaptation, but in the case of human affairs both internal and external factors are modified. Plants and animals are forced to accept their environment very much as it is. Human beings work. They are tool-using agents. They vision and fashion environment somewhat after their own patterns.

1. In the case of the agent, educators must consider (a) natural endowment; (b) acquisitions—the "me" and "mine" of Professor James—(1) material me; (2) social me; (3) spiritual me—(c) also educators must recognize and utilize the personal interests and purposes of the agent.

2. The multifarious factors constituting the situation may be classified under three heads—(a) Nature; (b) Art—works of man made to supplement or improve on nature; (c) and Persons—individual and institutional.

3. The responses have been variously named and classified, but Watson's account is the simplest. When the situation stimulates a child, the responses may be explained and interpreted both as action and emotional concomitant. (a) The agent may respond by flight accompanied by fear; (b) the agent may fight accompanied by anger; (c) the agent may welcome and embrace accompanied by affection or love.

This outline furnishes the framework for the primary approach to the explanation and interpretation of human conduct.

I. Agent: native endowment, acquisitions, personal interests and purpose.

II. Situation: nature, art—works, people.

III. Response: Flight—fear, fight—anger, embrace—love.

The problem of evaluation arises because of personal interests and purposes.

Three levels of values are discernible: (a) If responses are accompanied by pleasure, the tendency is for the response to be continued or repeated insofar as the agent has control of the response. (b) If pain or dissatisfaction accompanies a response, the primary impulse is to inhibit or prevent the response insofar as the agent has control of the responses. It must be noted that this system of values is individual and immediate.

When ends or purposes arise in experience, then ways and means are involved. Causes become means and effects become consequences for which the agent accepts some measure of personal responsibility. The means favorable to purposes are counted good. The causes unfavorable are evaluated as bad. It must be noted that this system of values is greatly extended beyond the primary system. Because of intermediate ends or purposes the agent may forego pleasure or endure pains of the immediate or primary system.

In a personal and social scheme involving other persons, purposes themselves require evaluation. If this secondary system of values is employed, then some one end or purpose is deemed ultimate and we have a complete or final system of values.

A system of values organized around an ultimate end, purpose or goal involves the principles of right and wrong. When this system is given universality by willingness to submit to a system all inclusive and geared into "eternal values" to use Munsterburg's term, then the scheme is one's religion. This scheme provides the best possible formula for character because it demands an integration of all one's abilities and dispositions. "Be ye perfect as your Father in Heaven is perfect." In such a scheme of life nothing short of perfection is fit to be an ultimate goal.

Constituted as human beings are and living as they do in a natural environment and in a social situation partly of their own making, there are clearly three aspects to the responses that are made. The biological terms adaptation and adjustment may be used, but the biological meaning must be supplemented to admit of personal interests and purposes and creative experiences of cooperating groups.

First, there are situations in which the agent must conform to the fixed forms and forces. If the agent violates the laws of nature then elimination and suffering follows. In spelling the learner must conform to social usage or he spells incorrectly.

Second, in the case of a developing agent in a world constituted of differences and changes in degrees and in kinds, there are many selections or alternatives presenting occasions for deliberation and choice. These situations present the problems of purposes and the whole series of problems involved in theory of good and bad.

In the third place, persons are persons. They have many forms of surplus power. They are capable of "divine discontent" with themselves and with their environment. They can and do vision themselves and their environment as other than they are. People can apply surplus power towards creating changes, producing new creatures—consequences for which they must and willingly do assume responsibility. People invent machines, create poems and immortal symphonies, and institute families, churches, and states, and schools. All three of these levels of responses must be recognized by the parent or teacher if they are to be helpful in leading children to achieve their best possible characters.

The child is the center of reference in character education—Every fact and every factor in education must ultimately be evaluated from the standpoint of child welfare. The school exists for the sake of children. The school can be justified as a conserver of society, but society is best conserved through the best possible development of children. The conservation of society is not the motive of best parents and best teachers. They unselfishly desire the immediate and ultimate welfare of children.

Parents and teachers need frequently to remind themselves that the school as an educative agency arises in the will or desire or purpose of the pupil. If the pupil does not will to go to school, he does not go. The parent or probation officer or policeman might carry the child's body to the school, but if the child's mind and affections were off somewhere else where they desired to be, the lessons are not gotten. From the standpoint of learning and education the child is where he desires to be.

While for each child each day the school originates in that child desire and will, the school as a social process does not exist until matched by the good will of the teacher leading to a cooperative enterprise of some kind.

The what of conduct—Since every act of conduct is in some sense an expression of character with character consequences, the cooperative enterprise—what the child does—is of very great importance. Here enters the wisdom and character of the teacher. The more the act of the child is a whole-hearted expression of disposition and ability, the greater and the better the character returns.

The how of conduct—What a child does is important but *how* he does what he does is more important. If the act is done in a half-hearted, slovenly manner, the results are bad and the more significant the *what,* the worse the character results. Efficiency is a characteristic of action, not something to be worked or sought as an end, but efficiency and the sense of skill and success have great character consequences. Here it should be noted that *how* a child does what is done depends very much upon what that child is doing. The cooperative enterprise of teacher and pupil must be suited to the ability and disposition of the doer.

The why of conduct—Why a child does what he does is still more important than what or how he does it. The motive or incentive for action determines the return effect or character consequences of the act. If the motive is high and worthy and consistent with the character of the child at its level of development, then the consequences (satisfaction from the successful outcome, or annoyance from failure) integrate experience into a developing personality. If the motive is selfish, belittling, or unworthy, then the results are disintegrating. Motive in education is the critical function from the standpoint of character. Motive determines the ultimate outcome. Here again emerges the significance of the character and personality of the teacher. The objects and objectives to which the teacher directs attention for the purpose of stimulating and directing effort are properly termed incentives. If these objects and objectives are the natural and legitimate results of the child's activities, then these incentives are natural and their attainment favors the development of character. If the teacher thrusts cookies or nickels or gold stars or grades in between the act and the legitimate returns of the act, then the incentives are artificial and wrong senses of values are developed and the child is cheated out of the best character results. If a particular child is in a pathological condition and needs artificial educational respiration, then the teacher shows her wisdom by using whatever will work. But there are very few cases where a whole class has been educationally drowned. In such cases the teacher perhaps needs some artificial treatment for the pathological condition. From the standpoint of character development, the first and last question of the teacher should be: Why are the pupils doing what they are doing; and are these the highest motives that can be used under all circumstances? Before a teacher dares to use artificial incentives she should assure herself beyond any doubt that these artificial devices will not turn out to be bribes.

The teacher as a factor in character education—The character and personality of the teacher is recognized by all authorities as of paramount importance. This aspect of the problem cannot receive extended treatment at this time, but it is important to call attention to the two professional relationships between teacher and pupil. From the standpoint of teacher as public officer, public servant *in loco parentes,* the relation is that of authority and obedience. From the standpoint of character education through the personality of the teacher, the teacher is most effective as a *leader.* These two relationships are not alternatives. They are not mutually exclusive. They overlap in every case, but they are not to be treated as identical. We may agree with Forsythe that ultimately all authority is personal, that rules or constitutions written on paper may be scrapped at any time. This is because all authority is ultimately vested in power of some kind. The power of the teacher over the pupil may be viewed from the standpoint of superior maturity and strength, superior experiences and good judgment, or from the standpoint of superior character vested essentially in good will. These relationships from the standpoint of authority might be thus diagrammed:

Authority	*Obedience*
Autocratic Power (External)	Fear—Submission
Paternal Good Judgment	Faith—Following
Democratic Good Will	Insight—Fellowship

In original and primary forms of authority, control and guidance is in a sense external to the agent. In fellowship and educating through leadership, guidance and control implies inner compulsion rather than external authority.

Authority and Obedience

Psychologically the parental relation to the child and teacher relations to the learner is that of authority and obedience. The nature and functioning of this relationship depends upon the character of the persons involved. In the first place, the difference in character must be recognized. The parent and teacher have the power and right to be in authority over the child and learner because they are an authority in the particular function in which leadership is asserted and obedience expected.

In authority and obedience, the relation is personal, but it is a relationship from the standpoint of conduct. It is a problem of the relationship of personal wills. Intelligence of course is involved. The authority must know enough to make known what is desired or willed. The one under authority must know what is desired, but the conduct of either party depends very much upon the kind of sentiments each has developed towards persons in general, and the particular sentiments existing between the persons at the time of cooperative action. The sentiments existing at the time are the most important factors from the standpoint of character development.

The highest form of cooperative conduct is found where those in authority exhibit and exercise intelligent good will and the one in obedience has insight enough to recognize the authority as good will and, accordingly, joyously cooperates in what is essentially a joint project.

This form of authority and obedience exhibits democratic form of authority, government and procedure at its best.

From the standpoint of character development, a second level of conduct is found where the one under authority has faith in the good judgment of the one in authority and carries out the joint project according to instructions. This is the paternalistic form of authority and government. It is second level conduct because the child and learner refers the conduct to the one in authority as cause.

From the standpoint of character development the lowest form of authority and obedience is the autocratic where those in authority exercise power rather than good judgment or good will, and those under authority respond through fear, pain or punishment. There are all sorts of combinations, differences in between these three characteristic forms.

Theoretically, the highest form of character and conduct is that in which the individual person has become his own authority. This exhibits the phenomena of ideals and conscience. Commissioner of Education, W. T. Harris, pointed out that "conscience is the criticism our ideals make upon us." Whether response to duty or obedience to one's conscience exhibits a high form of character and conduct depends entirely upon the nature and functioning of one's ideals. Under differing circumstances a person may assume an autocratic, a paternalistic or a democratic attitude toward one's self. And it must always be remembered that whatever ideals a person has achieved and whatever exercise of conscience a person employs, that person is in social relationships from which he cannot and does not escape. This is particularly important in considering the child. A child's ideals and moral judgment must always be respected but they must be respected for just what they are at the time and under the circumstances involved.

Recovery from Disobedience or Wrong Doing

Personality by its very nature carries within itself the power to achieve character. That is just what persons do, but the freedom and power to achieve a good character carries by implication the possibility of failure through disobedience and wrong action.

A very important problem from the standpoint of parenthood and character education is how to help the wrong doer recover from wrong doing. It will be accepted without argument that the positive promotion of strength and integrity of character that will insure in a person the ability and disposition to do the right as they see it and also to avoid the wrong conduct, is the first principle of sound theory and practice. But in an evolving changing world, contingencies and alternatives face us at every turn so that the "lesser good" is always possible. Therefore, the possibility of, and technique for recovery from wrong conduct is a very necessary principle.

The social nature of personal character indicates at once that recovery from wrong conduct is a social process in which both agent and situation are reconstructed and readjusted.

What parents or teachers and wrong doers try to do in trying to recover, ultimately depends upon their theory of right and wrong. This theory is inevitably tied up with a person's theory of freedom and personality. Those who have not, or try to refuse to have, a theory, try to hide the wrong doing and to escape from what seem to be consequences. This procedure simply compounds or multiplies wrong doing. Such procedure exhibits ignorance of the nature of character and conduct.

Diagnosis of Wrong Conduct

It is evident at once that any conscious or intelligent procedure in a case of disobedience or wrong conduct depends upon the diagnosis of the "breach of conduct." It is also evident from the above treatment that there were two breaks in character—first of all, the break in the personality from within, and second, the break with authority or society from without. Conduct that might have resulted in integrity of character has resulted in a fracture and, therefore, a fraction of a self.

In the second place, a wrong act has its outward results in breaking with authority and disrupting social relationship. This dual aspect of wrong conduct must not be overlooked in recovery. Parents and teachers may be justified in absolving themselves for any responsibility for the particular "behavior segment" diagnosed as wrong, but they cannot absolve themselves from responsibility for acting as counselors in the process of recovery.

The parable of the Prodigal Son rightly interpreted gives the psychology of the whole process—the steps of the break and also the steps of the recovery. The steps may be thus diagrammed:

Wrong Doer	Counselor
1. Repentance	Reestablishment of diplomatic relations
2. Confession	Approval or disapproval of confession
3. Restitution when possible	Forgiveness
4. Consecration—promise of loyalty	Restored fellowship

Character, therefore, cannot be understood without a due recognition of its roots in personality and its fruitage in conduct. The terms "roots" and "fruitage" are metaphors and in no sense adequately express the relations of character to personality and conduct. As already stated, character is what one *is* now. Personality is character plus the unrealized potentialities. One of the root principles in personality is the capacity for fellowship—the ability and disposition to form partnerships and be joined to other persons in corporate action. The character of John Doe cannot be studied nor understood apart from the Richard Roes to whom John Doe is attached, and in these personal relationships must be included the enemies that arouse hates and antagonisms. Because of the nature of personality, these personal relationships are always subject to change—are in fact always changing. This is the possibility and hope of education.

One other keynote needs to be sounded. To the achievement of so great and glorious a result as a good character there is no easy way. There is no possibility of "safeguarding" a child so that good character is certain and inevitable. At its best, human life is the achievement of a perpetual triumph. The achievement in a particular case depends upon obstacles overcome and the motive and spirit in which the challenge of life is met. What some would designate as a minor chord in this major key of character by personal achievement is found in the fact that when character is achieved it can be kept only by further achievement but this solemn truth adds new zest to the supreme challenge of being a person.

The school as a means of character education—The school is an institution—a group of persons cooperating in the pursuit of a common and joint purpose. As already set forth, the school originates each day in an act of the will of the individual learner. For this learner, however, the school arises also because his will is matched by the good will of the teacher in a cooperative enterprise.

Good character is manifested in the ability and disposition of a person to live peaceably with his fellows. A school is good because it affords the occasion for practicing this fine art. In a school the best possible results in character development are due to (1) a high morale; (2) democratic organization; (3) educative procedure according to the principles of right conduct.

Morale is the "spirit of the whole," "the cult of the fit," "the confidence of each that everyone is doing his duty." High morale comes from the recognition and organization of all the forces that favor fitness. At the heart of morale is "the condition of the inner man stimulating and guiding to high endeavor." Everything that favors intelligent respect for school people and school procedure favors morale and character development. Both respect and disrespect for the persons in charge of children are contagious with these children.

Democratic organization—School organization is effective in the way of character development because it creates and sustains the situations in which each child may have an opportunity for self-expression. The organization of the school as an instrument of character education is treated in previous sections of this report.

Educative procedure—This report also points out the procedure within the classroom which seems most conducive to character education results. Many examples of the best current practises have been cited.

Probably all the kinds of things that can be done in the interests of character education are being done some place at some time. Probably no new tricks will be discovered, but this cannot mean that schools are doing all that can be done. It does mean that whatever schools do should be done in the light of good character as the ultimate objective of education; and it also means that the best schools will seek to discover what the best possible methods are, that will make of each school event a character development event.

Bibliography

A Few Selected References

A Preliminary Report of the Character Education Committee of the National Education Association, of which Dean Bennion of the University of Utah is chairman, is to be published soon by the United States Bureau of Education. Since this report will contain an extended bibliography, only a few selected references are included here.

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ANNUAL REPORT OF THE EXECUTIVE SECRETARY

Washington Meeting, 1926

To the President, Executive Committee, and Members of the Department of Superintendence:

IN ACCORDANCE with the provisions of the Constitution adopted at the Chicago Convention in 1922, the Fourth Annual Report of the activities of the Department of Superintendence is presented herewith. It covers the period from January 1, 1925 to December 31, 1925.

The Cincinnati Convention—The Fifty-fifth Annual Meeting emphasized American ideals for the public schools. From the beautiful opening Vesper Service in Withrow High School on Sunday afternoon, until visitors started home Thursday night with the music of the great massed chorus from the Cincinnati schools still ringing in their ears, none were allowed to forget the words chosen by President William McAndrew as the keynote of the convention, "School is for service, not for self." The exhibits at Cincinnati were the most elaborate ever attempted by the Department. Schools not only from every part of the union, but also from overseas, contributed to the art exhibit. Platoon school plans, building displays, scientific apparatus, and educational equipment in almost endless variety filled the two great exhibition halls.

Fourteen departments and organizations had been officially invited to participate in this convention. Many others earnestly sought to be officially recognized in the same way. Some of these organizations are engaged in work of exceptional merit. The point has been reached, however, where it is scarcely possible for any city to supply the hotel accommodations which are required for the winter meeting. The programs of the groups already recognized, supplemented by numerous dinners and luncheons, already have a tendency to distract those in attendance from the serious problems which superintendents of schools come together to consider. Moreover, there is a real danger in withdrawing too many members from the executive and administrative staff of a school system during the week of the convention.

The Executive Committee—The Executive Committee consists of seven members. The president and the first and second vice-presidents are members ex-officio and are chosen annually. Four members chosen by election, hold office for terms of four years, one member retiring each year. Four meetings of the Executive Committee were held during 1925, the first being in Hotel Gibson, Cincinnati, February 22. Members present were William McAndrew, president; John J. Maddox, second vice-president; Randall J. Condon; Frank W. Ballou; Melvin G. Clark, and Frank D. Boynton. Legislative duties prevented the attendance of the first vice-president, Payson Smith. Committee appointments were confirmed and adjournment taken to Wednesday, February 25, when invitations for entertaining the 1926 meeting were presented orally by the representatives of several cities. Convention bills were audited and ordered paid.

The Executive Committee met again in the Cincinnati Music Hall on Thursday, February 26. The report of the annual election as submitted by the Board of Tellers was received and approved. A vacancy in the membership of the Executive Committee having been caused by the election of Frank W. Ballou as president, Charles B. Glenn, superintendent of schools, Birmingham, Alabama, was unanimously elected to serve for the unexpired term.

The annual meeting of the Executive Committee was held in the Statler Hotel, Detroit, Michigan, Saturday, April 25. Members present were, Frank W. Ballou, president; E. E. Lewis, second vice-president; Melvin G. Clark; Frank D. Boynton; C. B. Glenn, and N. R. Crozier. An important engagement elsewhere prevented the attendance of the first vice-president, William McAndrew. The budget for the year 1925 was submitted and adopted. It showed an estimated income of $23,500 and estimated expenditures of $20,300. A proposed amendment to the by-laws to provide that a membership card good for six years shall be issued on payment of $25, was approved and ordered placed on the program of the business meeting at the next convention. Applications from many organizations for recognition as allied groups were presented and the executive secretary was instructed to advise the officers of all such organizations that the Department of Superintendence regrets its inability to secure the necessary hotel and other facilities for additional groups.

President Ballou presented tentative plans for the program of the 1926 convention. Invitations for the entertainment of the meeting were received from fourteen cities. Several which were manifestly unable to care properly for our convention needs were eliminated. The officers were directed to make further investigation of the cities remaining on the list. On June 20, Washington was selected as the meeting place for 1926.

As the result of facts laid before the Committee by Superintendent Robinson G. Jones of Cleveland, a resolution was adopted to authorize the appointment of a commission to investigate the most effective methods of articulating the educational and business departments of city school systems.

The Committee were entertained at luncheon by Mr. Frank Cody, superintendent of the Detroit public schools.

National Commission on Economy and Efficiency in the Business Administration of School Systems—Pursuant to the instructions of the Executive Committee, the president took steps to organize a commission to study the relation of business and instructional management of public school systems. The original members of the Commission were Hon. John J. Tigert, United States Commissioner of Education and Dr. Thomas E. Finegan, appointed by the Secretary of the Interior; Mr. Ernest Greenwood, vice-president of the board of education, Washington, D. C., and Mr. Elliot H. Goodwin, resident vice-president of the U. S. Chamber of Commerce, appointed by the Secretary of Commerce; Mr. John H. Beveridge, superintendent of schools, Omaha, Nebraska, and Dr. George D. Strayer, Teachers College, Columbia University, New York City, appointed by the Department of Superintendence. The Commission held its first meeting in the Directors' Room of the Chamber of Commerce of the United States of America, in Washington, D. C., December 19, 1925. Dr. Frank W. Ballou was invited to serve on the Commission and was elected chairman. Two additional members are to be named later. At a second meeting, held January 8, 1926, it was reported that the Secretary of the Interior had placed suitable rooms for headquarters at the disposal of the Commission. Plans were completed for vigorously prosecuting the investigation. The proposed study will require a year for its completion.

The Commission on the Curriculum—The Cooperative Plan of Curriculum Revision as presented by the Commission on the Curriculum and adopted by the Department of Superintendence at the Cincinnati Convention, gave new impetus to the movement for curriculum revision. The direct results of the Commission's work are reported in Chapter II of this Yearbook. Perhaps the most important contribution of the cooperative plan has been to arouse school authorities to the need of studying their own curriculum problems.

Grateful acknowledgment is made to the Carnegie Corporation for a second gift of five thousand dollars made available to the Commission for payment of traveling expenses and clerical service.

The Division of Research of the National Education Association, of which Mr. John K. Norton is director, has contributed largely to the work of the Commission on the Curriculum. Miss Margaret M. Alltucker, the curriculum specialist of the Division, has conducted the field work in connection with the three curriculum yearbooks and has been the active editor.

Educational Research Service—One hundred and thirty-one cities are subscribers to the Educational Research Service of the Department of Superintendence in cooperation with the Research Division of the National Education Association. This service affords a clearing-house by which subscribers are informed of studies actual and proposed by various research agencies. Subscribers are furnished printed or multigraphed copies of studies prepared by cities, universities, and societies, not available for general distribution. Photostat copies of various tables, such as salary distributions, building costs, etc., are furnished. The questionnaire problem has received much consideration, but thus far, little progress has been made towards its solution.

Publications—An Official Report of the addresses delivered at the Cincinnati Convention was published and delivered to members soon after the meeting adjourned. It was a volume of two hundred thirty pages.

The *Research Bulletins* of the National Education Association were mailed to members of this Department during the year. These bulletins deal with the most important problems of education.

The present yearbook was made possible through unselfish help from many sources. The Commission on the Curriculum secured nation-wide cooperation. Interested school systems gave freely of time and effort. Subject committees, although without appropriations, held meetings and gave their best thought to the enterprise.

Receipts During Calendar Year 1925

Annual dues, 1976 members 1925	$9876.50	
Annual dues, 471 members 1926	2355.00	
Yearbooks sold	4707.65	
Commercial exhibit, Cincinnati	8696.06	
Miscellaneous	21.16	
Research Service	2555.00	
Balance Chicago convention fund	149.00	
Total receipts		$28,360.37
Balance, January 1, 1925		2,507.70
		$30,868.07

Expenditures During Calendar Year 1925

Cincinnati Convention:		
Publicity	478.45	
President expense	125.00	
Secretary expense	376.64	
Programs	562.35	
Registration	646.63	
Stenographic report	124.00	
Honorariums	310.30	
Projection service	37.00	
Badges	43.75	
Public address system	600.00	
Art exhibit	1341.41	
Total Cincinnati convention		4,645.53
Other Items:		
Salary, Executive Secretary	$6499.92	
Third Yearbook	3814.17	
Research Bulletins and Official Reports	1466.29	
Other printing	225.85	
Postage and Stationery	2198.42	
Stenographic and clerical	313.61	
Telephone and telegraph	171.59	
Secretary expense	396.90	
President expense	178.04	
Executive Committee expense	473.22	
Expense, Audit Committee	53.61	
Research Service, salary and expense	1597.06	
Surety bonds	12.50	
Collection fees	2.70	
American Council on Education	100.00	
Office Supplies	13.20	
Committee on Records and Accounts	85.43	
Total general expense		17,602.51
Total expense for the year		$22,248.04
Balance, December 31, 1925		8,620.03
		$30,868.07

Financial statement—The principal source of revenue is the $5 annual membership fee. The Department enrolled 1263 members in 1922, 1650 in 1923, 2136 in 1924, and 2470 in 1925. There promises to be a material increase in 1926.

By agreement with the National Education Association, the net income from the commercial exhibits at the winter meetings is divided equally between the Department and the parent association, each organization thus deriving funds for convention expenses. The active work of organizing and managing the exhibit is done by the Business Division of the National Education Association.

Other income was received from the sale of yearbooks, which was unexpectedly large, from the Educational Research Service, and from a donation to the Department of a balance remaining in the convention fund subscribed at Chicago two years ago.

The financial statement on page 454 covers the calendar year of 1925. All bills were paid at the end of the year. It includes expenses of the Cincinnati Convention and the preliminary expenditures for the 1926 meeting in Washington.

In conclusion—A friendly and helpful spirit has marked the work of the year. Every request for assistance has met with a prompt response. This was particularly noticeable in connection with the curriculum investigation and in preparing salary studies. Special appreciation is due to the members of the headquarters staff of the National Education Association, who have generously aided whenever occasion arose. To the president, Frank W. Ballou, came the double task of administering the affairs of the Department and of serving as host for the Convention. Although his duties in each capacity were numerous and exacting, he has still found time to encourage every undertaking intended to promote the usefulness of the Department.

There are still problems which are pressing for solution through education. Wise and prompt solutions are demanded lest the children in our keeping go out from the schools without those qualifications which are necessary for making good citizens of this Republic. The Department of Superintendence has done its part well in the past, but there is much to do just ahead.

Respectfully submitted,

S. D. SHANKLAND,
Executive Secretary.

REPORT OF AUDITING COMMITTEE

Washington, D. C.
January 30, 1926

Dr. Frank W. Ballou,
President, Department of Superintendence,
Franklin School Building,
Washington, D. C.

Dear Sir:

We, the undersigned, constituting the Auditing Committee of the Department of Superintendence, have examined the books of the Department for the calendar year 1925 and beg to report as follows:

1. We find the accounts as presented by Secretary S. D. Shankland correct in every respect and we wish to commend the careful manner in which the financial records are kept.
2. Inasmuch as the membership of the Department of Superintendence is rapidly increasing, we wish to recommend that hereafter the financial records be examined annually by a firm of certified public accountants, to be selected by the President and the Executive Committee of the Department of Superintendence.
3. We wish to recommend further that the bank account of the Department of Superintendence be kept in an institution most conveniently located for the purpose and that, if possible, three percent interest on daily balances be secured.

Respectfully submitted,

Albert H. Hill
David E. Weglein

THE CONSTITUTION AND BY-LAWS

THE DEPARTMENT OF SUPERINTENDENCE

Adopted at Chicago, February 27, 1922, Amended at Cleveland, February 27, 1923

CONSTITUTION

ARTICLE I—Name

The name of this Association shall be the Department of Superintendence of the National Education Association.

ARTICLE II—Object

The object of this Association shall be to promote the general educational welfare in the field of administrative education and supervision, to make constructive studies, to further the effort and increase the efficiency of persons engaged in education, to foster professional zeal, to advance educational aims and standards, to protect and advance the interests of school administration, and to establish and maintain helpful, friendly relationships.

ARTICLE III—Membership

Section 1. Membership in the Department of Superintendence shall consist of active, associate, and honorary.

Sec. 2. All persons shall be eligible to active membership who are members of the National Education Association and who are engaged in supervisory and administrative positions—namely, State, county, and city superintendents, and associate, assistant, and deputy State, county, and city superintendents, and supervisory and administrative officers in city and county school systems exercising the functions of associate, assistant, or deputy superintendents; all State and National officers of educational administration; the heads of teacher-training institutions, colleges, and universities having departments or colleges of education, the heads of these departments or colleges of education, and professors of school administration or supervision in these institutions.

Sec. 3. All members of the National Education Association, who are actively engaged in any phase of school work, may become associate members of this department by paying the regular membership fee, and shall be entitled to all the privileges of this department except the right to vote and hold office.

Sec. 4. All members of the National Education Association, who have been engaged in supervisory or administrative positions, as defined in Sec. 2 of this article, and who have retired from such service, may have the privilege of honorary membership in this department upon recommendation of the Executive Committee.

Sec. 5. The Executive Committee shall have power to pass upon the credentials of all applicants for membership.

ARTICLE IV—Officers

Section 1. The officers of this department shall be a president, a first vice-president (who shall be the retiring president), a second vice-president, an executive secretary, and four members of the Executive Committee who, with the other officers of this department, with the exception of the executive secretary, shall constitute the Executive Committee.

Sec. 2. The President and vice-presidents shall hold office for the period of one year from the date of election, including one full year's service in the promotion and operation of one meeting of the department.

Sec. 3. The executive secretary shall be selected by the Executive Committee for an indefinite period.

Sec. 4. Members of the Executive Committee shall hold office for four years, one member retiring each year. At the first election the member receiving the largest number of votes shall serve for a term of four years and the others for three, two, and one years, respectively, according to the number of votes received.

ARTICLE V—Election of Officers

Section 1. The procedure for the election of officers shall be as follows: Nominations shall be made from the floor on the morning of the second day's session at a time previously agreed upon by the Executive Committee, and announced in the printed program of the meeting.

Sec. 2. *Method of balloting*—The tickets issued by the secretary of the department to the members of the Association shall be provided with a detachable stub, to be used as a ballot.

Two places for balloting shall be provided, one at the secretary's headquarters the other at the entrance to the auditorium in which the general sessions are held.

The ballot-boxes shall be open for voting from 11 A. M. until 6 P. M. on the third day of the meeting.

Those candidates receiving the highest number of votes for the respective offices shall be considered the choice of the Association, and declared elected.

The entire procedure of balloting shall be in charge of the Executive Committee and secretary.

Sec. 3. *Announcement of the result of balloting*—At the last regular business meeting, the president shall call for the report of the secretary, announcing the result of the ballot cast for the several officers of the association. In case of a tie vote, the Executive Committee shall cast lots to determine the successful candidate.

ARTICLE VI—Appointive Committees

The appointive committees of this department shall consist of a Resolutions Committee, an Audit Committee, and such other committees as may be authorized by the department from time to time.

ARTICLE VII—Annual Meeting

The annual meeting of this department shall be held on the fourth Monday in February, and the three succeeding days.

ARTICLE VIII—Amendments

This Constitution may be altered or amended at any annual meeting by two thirds vote of the active members present, the proposed amendment having been submitted in writing at a previous regular business meeting.

BY-LAWS

ARTICLE I—Duties of Officers

Section 1. It shall be the duty of the president to preside at all meetings and in conjunction with the Executive Committee to prepare programs for the annual meeting of the department; to appoint all committees not otherwise provided for.

He shall be chairman and a member of the Executive Committee, and shall call meetings of this committee whenever he deems it necessary, or whenever he is requested so to do by a majority of the members of the committee. He shall perform all other duties appertaining to his office.

Sec. 2. In the absence of the president the vice-presidents shall preside in turn. In case of vacancy in the office of president, the second vice-president shall at once succeed to the office of president.

Sec. 3. The Executive Secretary shall keep a complete and accurate record of the proceedings of all meetings of the department and all meetings of the Executive Committee, shall conduct the business of the department, as provided by the Constitution and By-Laws, and in all matters not definitely prescribed therein be under the direction of the Executive Committee, and in the absence of direction by the Executive Committee, shall be under the direction of the president. He shall receive all moneys due the department and transmit them monthly to the secretary of the National Education Association; shall countersign all bills approved for payment by the Executive Committee or by the president in the interval between meetings of the Executive Committee. He shall have his records present at all meetings of the department and Executive Committee. He shall keep a list of members of the department and shall revise said list annually. He shall be secretary of the Executive Committee and custodian of all property of the department. He shall give such bond as may be required by the Executive Committee. He shall submit an annual report to the Executive Committee at each annual meeting. At the expiration of his term of office he shall turn over to his successor in office all money, books, and property of the department. He shall serve during the pleasure of the Executive Committee.

ARTICLE II—Duties of Committees

Section 1. The Executive Committee shall assist the president in arranging the annual program, and in arranging for the place of the annual meeting. It shall select an executive secretary and fix his salary. The Executive Committee shall submit an annual report at one of the business sessions of the department, shall recommend to the department the appointment of special committees for investigation and research. It shall recommend the amount of money to be expended in such investigations, but in no case shall it incur debt. It shall decide what sections and departments of the National Education Association may be affiliated with this department.

Sec. 2. The Resolutions and Audit Committees shall be appointed by the newly-elected president immediately upon his election and shall make their report at the next annual meeting succeeding their appointment.

ARTICLE III—Dues

The dues in this department shall be five dollars per year for both active and associate members, and shall be paid annually to the Executive Secretary.

ARTICLE IV—Vacancies

All vacancies occurring in any office other than that of president shall be filled by the Executive Committee.

ARTICLE V—Rules of Order

Roberts' Rules of Order shall govern in all business meetings of this department.

ARTICLE VI—Amendments

These By-Laws may be amended at any regular business meeting of this department by a majority vote of the members present, the amendment having been submitted in writing at a previous regular business meeting.

List of Members

The Department of Superintendence

of the

National Education Association of the United States

Corrected to January 11, 1926

Abbott, Thomas C., A. B. '05, A. M. '21, Peabody College; Supt. of Sch., 751 W. Emerson, Paragould, Ark., since 1923.

Abbott, Winthrop P., A. B. '93, Dartmouth; Supt. of Sch., 36 High, Greenfield, Mass., since 1912.

Ackley, Clarence E., A. B. '10, A. M. '13, Oberlin Col.; Supt. of Sch., Ashland, Ky., since 1922.

Adams, Edwin W., M. A. '23, Univ. of Pa.; Prin., Philadelphia Normal Sch., 2522 S. Lambert St., Philadelphia, Pa., since 1924.

Adams, Emerson L., A. B. '89, A. M. 92' Bowdoin Col.; Assist. Com. of Ed.; State House, Providence, R. I., since 1917.

Adams, Frank R., Diploma '12, State Normal Sch., Bloomsburg, Pa.; A. B. '18, Dickinson Col.; Supt. of Sch., 16 Lincoln Ave., Barton, Vt., since 1913.

Adams, Ray H., Supt. of Sch., Dearborn, Mich.

Aery, William Anthony, A. B. '04, Columbia Col.; A. M. '05, Tchrs. Col., Columbia Univ.; Dir., Sch. of Ed., Hampton, Va., since 1923.

Afflerbach, Calvin E., A. B. '20, Dickinson Col.; Rural Supervisor, State Dept. of Pub. Instr., Georgetown, Del.

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Alan, John S., A. B. '93, A. M. '00, Thiel Col.; Supt. of Sch., 529 McKinley Ave., Salem, Ohio, since 1923.

Alcorn, M. O., M. S. '20, Univ. of Ark.; Supt. of Sch., 213 E. North St., Magnolia, Ark., since 1924.

Alcorn, Maurice, A. B. '16, Univ. of Ark.; Supt. of Eau Claire Sch., College Place, Columbia, S. Car., since 1920.

Alderman, Grover H., B. A. '13, Iowa State Teachers Col.; M. A. '19, Ph. D. '20, State Univ. of Iowa; Dean, Sch. of Educ., Univ. of Pittsburgh, Pittsburgh, Pa.

Alderson, W. C., A. B. '89, Willamette Univ.; Co. Sch. Supt., 642 Courthouse, Portland, Ore., since 1916.

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Alexander, Carter, B. S. '05, A. B. '06, A. M. '08, Univ. of Mo.; Ph. D. '10, Columbia Univ.; Asso. Prof. of Ed. and Research Asso., Div. of Field Stud., T. C. Columbia Univ., New York, N. Y.

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Alger, John L., A. B. '90, A. M. '95, Brown Univ.; Ed. D. '21, R. I. State Col.; Pres. of R. I. Col. of Ed., Providence, R. I., since 1908.

Allan, Harold A., A. B. '06, Bates Col.; Director Business Division, N. E. A., 1201 Sixteenth St. N. W., Washington, D. C., since 1923.

Allen, A. T., Ph. B. '97, Univ. of N. C.; D. C. L. '24, Elon Col., N. C.; State Supt. of Pub. Instr., Raleigh, N. C., since 1923.

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Allen, I. M., A. B. '96, Lawrence Col., A. M. '24, Columbia Univ.; Asst. Prof. of Ed., Univ. of Chicago, Chicago, Ill.

Allen, J. Edward, A. M. '08, Wake Forest Col.; City and Co. Supt. of Sch., Warrenton, N. C., since 1919.

Allen, James E., A. B. '98, LL. D. '23, Hampden-Sidney Col.; Pres., Davis & Elkins Col., Elkins, W. Va., since 1910.

Allen, Philemon A., Supt. of Sch., 510 W. Washington St., Bluffton, Ind., since 1881.

Allman, H. B., B. S. '10, Tri-State Col.; Supt. of Sch., Rushville, Ind.

Allsworth, B. H., Supt. of Sch., Center, Colo.

Alltucker, Margaret M., B. L. '14, M. A. '19, Ph. D. '22, U. of Calif.; Asst. Dir., Research Div., N. E. A., 1739 N. St. N. W., Washington, D. C., since 1923.

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Amstutz, W. A., Supt. of Sch., Berne, Ind.

Anderson, C. J., Asst. State Supt. of Sch., Madison, Wis.

Anderson, David Allen, B. A. '08, M. A. '10, Ph. D. '12, U. of Iowa; Head Dept. of Ed. and Psycho., Pa. State Col., 306 S. Gill St., State College, Pa., since 1917.

Anderson, Ernest B., B. A. '09, Gustavus Adolphus Col.; Supt. of Sch., 115 Third St., Cloquet, Minn., since 1923.

Anderson, Homer W., B. A. '10, Des Moines U.; M. A. '15 Ph. D. '25, State U. of Iowa; Asst. Supt. of Sch., 414 Fourteenth St., Denver, Colo., since 1923.

Anderson, Ward, B. A. '23, La. State Univ.; Supt. of Sch., Lake Charles, La., since 1920.

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Andrews, Sterling M., B. S. '04, Valparaiso U.; Supt. of Sch., Walsenburg, Colo., since 1908.

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Appenzellar, J. L., Sup. Prin. of Sch., Wyomissing, Pa.

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Ashley, Frank L., B. S. '11, Young-Harris Col.; A. M. '13, Newberry Col.; Supt. of Sch., Hamlet, N. C., since 1923.

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Avery, M. C., B. S. '10, Wooster; Supt. of Sch., Wadsworth, Ohio, since 1924.

Avery, William J., Supt. of Sch., Drawer 603, Alexandria, La., since 1919.

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Bachman, Lucy Nash, Co. Supt. of Sch., Globe, Ariz.

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Bailey, Edward L., Supt. of Sch., Box 135, Jackson, Miss.

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Baish, Henry H., A. B. '01, A. M. '03, Lebanon Valley Col.; Sec., Pa. Tchrs. Retirement System, Harrisburg, Pa., since 1918.

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Baker, Edna Dean, B. A. '20, M. A. '21, Northwestern U.; B. E. '13, Nat. Kindergarten Col.; Pres. Nat. Kindergarten and Elem. Col., 2944 S. Michigan Ave., Chicago, Ill., since 1920.

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Baker, Oscar R., Supt. of Sch., 322 E. Franklin St., Winchester, Ind.

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Baker, William Elwood, A. B. '16, A. M. '20, Colo. St. Tch. Col.; Supt. of Sch., 311 E. Kiowa St., Fort Morgan, Colo., since 1924.

Balch, Frank A., '88, Bridgewater Normal Supt. of Sch., 201 Jane St., Weehawken, N. J., since 1914.

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Baldwin, William A., B. S. '97, Harvard U.; 303 Maple St., Springfield, Mass.

Baldy, Edward Vincent, A. B. '85, A. M. '86, Mercer U.; M. Th. '89, Southern Baptist Theo. Sem.; LL. D. '25, Mercer Univ.; Pres. of Judson Col., Marion, Ala., since 1923.

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Ballou, Frank Washington, B. S. '04, Teachers Col. Columbia Univ.; M. A. '08, Univ. of Cincinnati; Ph. D. '14, Harvard Univ.; Pres., Dept. of Superintendence, 1925; Supt. of Sch., Washington, D. C., since 1920.

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Banting, George Orton, Ph. B. '15, Univ. of Chicago; Supt. of Sch., Waukesha H. S. Bldg., Waukesha, Wis., since 1920.

Bard, Harry Erwin, A. B. '94, M. A. '98, Wabash Col.; Ph. D. '09, Columbia Univ.; Supt. of Sch., Ridgefield, Conn., since 1924.

Bardelmeier, J. E., A. B. '18, Defiance Col., B. S. '23, Columbia Univ.; Supt. of Sch., Stuttgart, Ark., since 1925.

Bardwell, C. M., Supt. of Sch., 429 Fox St., Aurora, Ill.

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Barker, J. M., Supt. of Sch., Depew, N. Y.

Barnard, J. Lynn, B. S. '92, Syracuse Univ.; Ph. D. '97, Univ. of Pa.; Dir. of Social Studies, State Dept. of Pub. Instr., 1528 N. Second St., Harrisburg, Pa., since 1920.

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Barnes, Harold, A. B. '92, Kans. Univ., A. M. '11, Tch. Col., Columbia Univ.; Sup. Prin. Elem. Ed., Girard Col., Philadelphia, Pa., since 1911.

Barnes, Percival S., B. S. '17, A. M. '18, Columbia Univ.; Supt. of Sch., East Hartford, Conn., since 1919.

Barnett, D'Arcy C., A. B. '98, A. M. '07, Univ. of Md.; A. M. '11, Columbia Univ.; '13, Columbia Univ. Diploma; Sup. Prin. of Sch., 7 Cleveland St., Caldwell, N. J., since 1911.

Barnhart, Walter W., Supt. of Sch., Weldon, N. C.

Barr, A. S., Assoc. Prof. of Ed., Univ. of Wis., Madison, Wis.

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Barr, Ralph R., A. B. '13, Bates Col.; A. M. '15, Harvard; Supt. of Sch., Town Hall, Amesbury, Mass., since 1924.

Barrett, Harry M., B. A. '90, M. A. '93, Allegheny Col.; Litt. D. '14, Univ. of Denver; Dir. Col. of Ed., Univ. of Colo., Boulder, Colo., since 1920.

Barrett, John Ignatius, Ph. D. '23, Loyola Col.; LL. D. '23, Gonzaga Col.; L. C. L. '12 Catholic Univ. of America; Supt. of Parish Sch., Archdiocese of Baltimore, 415 Cathedral St., Baltimore, Md., since 1922.

Barthelmeh, Charles, B. S. '22, Kent St. Norm. Col.; Co. Supt. of Sch., New Philadelphia, Ohio, since 1914.

Barton, James Richard, B. A. '13, Hendrix Col.; M. A. '21, Tch. Col., Columbia. Univ.; Supt. of Sch., 400 N. Walnut St., Oklahoma City, Okla., since 1925.

Barton, W. A., Jr., B. A. '10, Furman Univ.; M. A. '23, Columbia Univ.; Prof. of Sec. Ed., Southeastern State Tchrs. Col., Durant, Okla., since 1924.

Barwis, Bertha M., Primary Supv. '11, Columbia Univ.; Asst. to Elem. Dir., Board of Educ., Trenton, N. J.

Bass, E. E.., Supt. of Sch., Greenville, Miss.

Bassette, Alfred S., A. B. '13, Syracuse U.; Supt of Sch., Walden, N. Y., since 1923.

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Bate, William G., B. A. '10, M. A. '15, Ripon Col.; Supt. of Sch., 127 N. 10th St., Richmond, Ind., since 1921.

Bates, H. L., B. S. in Ed. '24, Kent St. Col.; Supt. Co. Sch., I. O. O. F. Bldg., Caldwell, Ohio, since 1915.

Bates, Horace Freeman, A. B. '98, Harvard; Union Supt. of Sch., Swansea, Mass., since 1922.

Batten, Reeves D., B. S. '05, Pd. M. '08, New York Univ.; Supv. Prin. of Sch., 264 Oriental Place, Lyndhurst, N. J., since 1905.

Bauer, Nicholas, B. S. '97, M. A. '99, Tulane Univ.; Supt. of Sch., City Hall Annex, New Orleans, La., since 1922.

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Bawden, William T., A. B. '96, Denison Univ.; B. S. '10 Tch. Col., Columbia U.; Ph. D. '14, Tch. Col., Columbia Univ.; Asso. Supt. Sch., Board of Ed. Bldg., Tulsa, Okla., since 1923.

Bay, James C., Supt. of Sch., Easton, Pa.

Baylor, Adelaide Steele, Ph. B. '97, U. of Chi.; M. A. '18, Columbia U.; Chief of Home Economics Ed. Serv., Fed. Bd. for Voc. Ed., Washington, D. C., since 1923.

Beach, M. F., Supt. of Sch., Moberly, Mo.

Beals, R. G., A. B. '07, Earlham Col.; M. A. '09, Indiana Univ., Supt. Twp. H. S., DeKalb, Ill., since 1922.

Bean, Albert M., A. B. '10, A. M. '14, Dickinson Col.; Supt. of Sch., Gloucester City, N. J., since 1924.

Bear, Harris V., A. B. '03, Otterbein Col.; A. M. '10, Harvard Univ.; Supt. of Sch., 301 S. 5th St., Miamisburg, Ohio, since 1915.

Beard, R. B., B. S. '18, Bucknell Univ.; A. M. '25, Columbia Univ.; Supr. Prin. Pub. Sch., Portage, Pa., since 1919.

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Bedwell, R. L., Ph. B. '10, Miss. Col.; M. A. '17, Univ. of Miss.; Supt of Sch., 220 Jackson Ave., Yazoo City, Miss., since 1919.

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Bell, John Randolph, Pd. B. '96, Colo. State Tchrs. Col.; M. A. '02 Univ. of Colo.; Litt. D. '14, Univ. of Denver; Dir. of Extension Service, Colo. State Tchrs. Col., Greeley, Colo., since 1920.

Bemer, C. W., A. B. '12, Albion Col.; Supt. of Sch., Lake Linden, Mich., since 1923.

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Bennett, J. M., A. B. '10, Western Md. Col.; Co. Supt. of Sch., Salisbury, Md., since 1917.

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Bennett, Thomas G., A. B. '09, West. Md. Col.; A. M. '22, Tchrs. Col.; Supt. of Sch., Centreville, Md.

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Bergerson, Carl I., Supt. of Sch., Albion, N. Y.

Bergquist, E. B., B. A. '02, Gustavus Adolphus Col.; Supt. of Sch., High School Bldg., Little Falls, Minn., since 1920.

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Birdwell, A. W., A. M. '16, George Peabody Col. for Tchrs.; Pres., Stephen F. Austin State Tchrs. Col., Nacogdoches, Texas, since 1922.

Bishop, Charles C., A. B. '06, U. of Wis.; M. A. '19, Columbia Univ.; Supt. of Sch., Oshkosh, Wis., since 1921.

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Black, H. B., M. A. '24, Univ. of Ill.; Supt. of Sch., Mattoon, Ill., since 1921.

Black, Mary S., B. S. '23, Columbia Univ.; Deputy Supt. of Pub. Instr., Second Supv. District, Ely, Nev., since 1925.

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Blanton, Annie Webb, B. Lit. '99, M. A. '23, Univ. of Texas; Adj. Prof. of Ed. Admin., Univ of Texas, Univ. Sta., Austin, Texas, since 1923.

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Boone, D. J., B. S. '98, Mt. Union Col.; Supt. of Sch., H. S., Lorain, Ohio, since 1914.

Borden, L. D., B. A. '93, Peabody Col.; State Supvr. of Rural Sch., Capitol Bldg., Austin, Tex., since 1919.

Borden, Walter W., B. S. '12, Ohio State; A. M. '25, Columbia Univ.; Supt. of Sch., Admin. Bldg., South Bend, Ind., since 1919.

Bosley, L. C., A. B. '91, LL. B. '98, Centre Col.; Supt. of Sch., 219 So. 4th St., Danville, Ky., since 1918.

Boston, Paul F., A. B. '17, Ind. State Normal; Supt. of Sch., Edinburg, Ind., since 1922.

Bourgard, Caroline B., State Dir. of Music, State Dept. of Ed., Louisville, Ky., since 1923.

Bowden, R. D., Supt. of Sch., 346 Montclair Ave., Glen Ellyn, Ill.

Bowen, Ray L., Ph. B. '17, Univ. of Chicago; Supt. of Sch., St. Louis, Mich., since 1924.

Bower, Roland, A. B. '04, Univ. of Ga.; Co. Supt. of Sch., Bainbridge, Ga., since 1921.

Bowers, Roy B., M. A. '11, Carson and Newman Col.; Supt. of Sch., Box 365, Bristol, Va., since 1919.

Bowlby, R. S., Supt. of Sch., 285 W. Clinton St., Dover, N. J.

Bowlus, Edgar S., A. B. '11, St. John's Col.; A. B. '12, Univ. of Md.; A. M. '16, St. John's Col.; Supt. of Sch., Brookhaven, Miss., since 1922.

Bowman, George A., A. B. '17, Western Reserve Univ.; Supt. of Sch., P. O. Box 287, Chillicothe, Ohio, since 1923.

Bowman, Grover Chester, B. A. '06, Williams; M. A. '12, Yale; Supt. of Sch., City Hall, North Adams, Mass., since 1922.

Bowman, H. L., B. S. '17, Southeast Mo. State Tchrs. Col.; Supt. of Sch., De Soto, Mo., since 1921.

Bowton, R. C., A. B. '11, Ind.; M. A. '15, Wis.; Supt. of Sch., 323 So. Fairfax St., Alexandria, Va., since 1923.

Bowyer, Vernon, S. B. '21, A. M. '23, Univ. of Chicago; 650 S. Clark St., Chicago, Ill.

Boyce, Ella Ruth, Dir. of Kdrgtns., 705 Fulton Bldg., Pittsburgh, Pa.

Boyden, Arthur Clarké, A. M. '83, Amherst Col.; Prin. State Normal Sch., Box 55, Bridgewater, Mass., since 1906.

Boyden, Wallace C., A. B. '83, A. M. '86, Amherst Col.; Prin. Tch. Col. of Boston, Huntington Ave., Boston, Mass., since 1900.

Boyer, Charles B., Supt. of Sch., Atlantic City, N. J., since 1890.

Boyes, Walter F., County Supt. of Sch., Court House, Galesburg, Ill.

Boynton, Frank David, A. B. '91, Middlebury Col.; A. M. '94, Hamilton, Col.; Ped. D. '03, Syracuse Univ.; Supt. of Sch., Box 96, Ithaca, N. Y., since 1900.

Bracken, John L., A. M. '22, Univ. of Chicago; Supt. of Sch., Clayton, Mo., since 1923.

Bradford, Mary C. C., Litt. D. '13, Univ. of Denver; Diploma, Packer Collegiate Inst.; State Supt. of Pub. Instr., 127 State Capitol Bldg., Denver, Colo., since 1913.

Bradner, J. W., B. S. '94, Tri State Col.; A. B. '08, Ind. U.; A. M. '24, Tch. Col. Columbia U.; Supt. of Sch., Middlesboro, Ky., since 1922.

Brady, Mary J., Primary Supvr. of Sch., 3017 Lafayette Ave., St. Louis, Mo., since 1897.

Brady, W. A., Supt. of Sch., Wakefield, R. I.

Bragdon, Frederick E., B. A. '91 Wes., Conn.; M. A. '05, Brown; Supt. of Sch., Egypt, Mass., since 1918.

Bragg, Mabel C., Asst. Supt. of Sch., Newton, Mass.; 80 Madison Ave., Newtonville, Mass.

Bragg, P. N., B. A. '15, Univ. of Ark.; Supt. of Sch., Texarkana, Ark., since 1925.

Braham, W. J., A. M. '13; Supt. of Sch., North Platte, Nebr., since 1922.

Brake, Charles, A. B. '20, Kalamazoo Col.; Supt. of Sch., Grosse Ile, Mich., since 1924.

Braman, W. J., B. S. '15 Columbia U.; Supt. of Sch., 255 Main St., Dansville, N. Y., since 1919.

Brandenberg, W. A., Ph. B. '03, A. M. '22, Drake Univ.; LL. D. '25, Monmouth Col.; Pres. Kans. State Tch. Col., 1801 S. Broadway, Pittsburg, Kans., since 1913.

Brandon, R. H., Supt. of Sch., New Paris, Ohio.

Brandt, Rose K., A. B. '14, U. of Wis.; M. A. '23, Columbia U.; State Super. Rural Sch., State Dept. of Pub. Inst., Helena, Mont., since 1923.

Branigan, John, B. Sc., '15, Univ. of Nebr., Supt. of Sch., Gilbert, Ariz., since 1924.

Bravender, R. H., A. B. '24, Mich. State Normal Col.; Supt. of Sch., 701 Maple, Holly, Mich., since 1925.

Breckenridge, J. L., A. B. '08, Oberlin; Supt. of Sch., Coeur d'Alene, Idaho, since 1923.

Brendlinger, Margaret R., A. B. '95, Vassar Col.; Prin. of Hillside Sch., Norwalk, Conn., since 1908.

Brennan, P. M., Supt. of Sch., Dickson City, Pa.

Brewer, A. L., L. I. and A. B. '02, Peabody Col. for Tchrs., Supt. of Sch., Tallapoosa, Ga., since 1917.

Bridges, D. W., Supt. of Sch., 52 Woodland, Fort Thomas, Ky.

Bridges, J. G., Supt. of Sch., Decatur, Miss.

Bright, Ira J., B. S. '16, State Norm. Col.; M. A. '18, Tch. Col. Columbia U.; Supt. of Sch., Times Bldg., Leavenworth, Kans., since 1919.

Bright, Orville T., Supt. of Sch., Dalton, Ill.

Brinser, Ira S., A. B. '20, Franklin & Marshall Col.; Ed. M. '21, Harvard U.; Supt. of Sch., Lewes, Del., since 1921.

Brister, R. H., B. A. '17, Baylor Univ.; Supt. of Sch., 602 W. 7th St., Taylor, Tex., since 1922.

Bristow, William H., B. S., '20, Mo. State Tch. Col.; A. M. '22, T. C. Columbia U.; Asst. Dir. of Sec. Ed., State Dept. of Pub. Instr., Harrisburg, Pa.

Brock, George William, A. B. '00, LL. D. '23, Univ. of Ala.; LL. D. '17, Howard Col.; Pres. State Norm. Sch., Livingstoh, Ala.

Brockman, Myron E., A. B., '03, Furman Univ.; Supt. of Sch., Box 378, Chester, S. C.

Brodhead, John C., Asst. Supt. of Sch., 38 Montclair Ave., Roslindale, Mass.

Brogden, L. C., State Supvr. of Rural Sch., Raleigh, N. C.

Brooks, Maro S., A. B. '92, Tufts; Supt. of Sch., Medford, Mass., since 1921.

Brooks, T. Latimer, B. A. '06, Dickinson; M. A. '15, Columbia; Supt. of Sch., Somerville, N. J., since 1921.

Brooks, W. G., B. E. '07, Nebr. State Tchrs. Col.; A. B. '10, York Col.; A. M. '15, Tchrs. Col., Columbia U.; Supt. of Sch., 917 Platte Ave., York Nebr., since 1922.

Broome, Edwin C., Ph. B. '97, A. M. '98, Brown Univ.; Ph. D. '02, Columbia Univ.; LL. B. '07, St. Lawrence Univ.; LL. D. '25, Ursinus Col.; Supt of Sch., Philadelphia, Pa., since 1921.

Broome, Edwin W., LL. B. '16, A. B. '20, Geo. Washington Univ.; Co. Supt. Box 129, Rockville, Md., since 1916.

Brothers, C. A., A. B. '11, Lake Forest U.; Supt. of Sch., H. S., Dwight, Ill.

Brouse, Mrs. J. P. W., Supt. of Sch., Irvine, Ky.

Brown, Bertram D., Supt. of Sch., 141 Central St., Hudson, Mass.

Brown, Emmett, B. A. '96, Univ. of Nashville; Supt. of Sch., H. S., Chambers Bldg., Cleburne, Tex., since 1913.

Brown, Frederic N., A. B. '99, Harvard U.; Supervising Prin., Verona, N. J., since 1903.

Brown, George Earl, A. M. '19, Denver Univ.; A. B. '13, Colo. State Tchrs. Col.; Supt. of Sch., Greeley, Colo., since 1916.

Brown, Harry Alvin, A. B. '03, Ed. D. '25, Bates Col.; A. B. '07, A. M. '23, Univ. of Colo.; Ed. D. '25, Miami Univ.; Pres. State Norm. Sch., 440 W. New York Ave., Oshkosh, Wis., since 1917.

Brown, Helen L., Diploma '11, Tchrs. Col. of Indianapolis; Co. Supt. of Sch., Tombstone, Ariz., since 1921.

Brown, Howard E., A. B. '10, Syracuse Univ.; A. M. '23, Columbia Univ.; Supt. of Sch., 517 Ohio St., Medina, N. Y., since 1918.

Brown, J. C., B. S. '01, M. A. '10, Columbia Univ.; Pres., State Tchrs. Col., St. Cloud, Minn.; since 1916.

Brown, J. Stanley, A. B. '89, LL. D. '14, Denison Univ.; Pres. State Col. for Tch., Col. Bldg., DeKalb, Ill., since 1919.

Brown, John, Dir., Dixie Portland Memorial Sch., Richard City, Tenn.

Brown, M. Ethel, Ph. B. '20, M. A. '25, Univ. of Chicago; Supvr. of Kdgn. and Primary Grades, 202 Parkwood Blvd., Schenectady, N. Y., since 1923.

Brown, R. H., B. S. and M. A. Columbia Univ.; Supt. of Sch., St. Cloud, Minn., since 1925.

Brown, Roy W., '16, State Normal Diploma; Super. Prin. of Sch., Bergenfield, N. J., since 1919.

Brown, Stella E., B. S. '18, Tch. Col., Columbia U.; Supr. Norm. Elem. Dept., Md. State Normal, Seven Belmar Ave., Baltimore, Md., since 1924.

Broyles, V. L., A. M. Tchrs. Col.; Supt. of Sch., Fulton, Ky., since 1921.

Brubacher, A. R., B. A. '97, Ph. D. '02, Yale Univ.; Pres. N. Y. State Col. for Tch., State Col., Albany, N. Y., since 1915.

Bruce, C. H., A. B. '92, Emery; Supt. of Sch., Macon, Ga., since 1912.

Bruner, Charles, Supt. of Sch., Kewanee, Ill.

Bruner, Claude A., A. B. '15, Wittenberg Col.; Supt. of Sch., 510 Paint St., Washington C. H., Ohio, since 1925.

Brunk, Louis F., '09, Mich. State Normal Col.; A. B. '19, Univ. of Mich.; Supvg. Prin. of Sch., Crafton, Pa., since 1922.

Brunyate, E. R., A. B. '03, A. M. '06, Dickinson; County Supt. of Sch., Court House, Cape May, N. J., since 1922.

Bryan, James E., A. B. '90, Johns Hopkins Univ.; Ph. D. '08, Univ. of Pa.; Supt. of Sch., 1433 Belleview Ave., Camden, N. J., since 1899.

Bryan, William L., Pres. Ind. Univ., Bloomington, Ind.

Bubeck, Allan E., Ph. B. '13, Dickinson Col.; A. M. '24, Columbia Univ.; Supvg. Prin. Public Sch., H. S. Bldg., Schuylkill Haven, Pa., since 1921.

Buchner, Edward Franklin, A. B. '89, Leander Clark Col.; Ph. D. '93, Yale Univ.; LL. D. '24, Univ. of Ala.; Dir. of Col. for Tchrs., Prof. of Ed., Johns Hopkins U., Baltimore, Md., since 1908.

Buck, B. F., 5900 Glenwood Ave., Chicago, Ill.

Buck, Frank P., A. B. '04, Univ. of Mich.; Supt. of Sch., P. O. Box 295, St. Johns, Mich., since 1910.

Buckingham, Burdette R., A. B. '99, A. M. '00, Conn. Wesleyan; Ph. D. '13, Columbia Univ.; Dir., Bureau of Educ. Research, Ohio State Univ., Columbus, Ohio.

Buehring, E. C., 4927 Dorchester Ave., Chicago, Ill.

Buell, R. A., B. A. '01, Beloit, Wis.; Supt. of Sch., H. S., Watertown, Wis., since 1924.

Bugbee, L. H., Supt. of Sch., West Hartford, Conn.

Buker, W. H., Supt. of Sch., Rochester, N. H.

Bullock, Russell E., A. M. '23, Columbia Univ.; Supt. of Sch., Scotch Plains, N. J., since 1924.

Bunce, Edgar F., B. S. '16, Tchrs. Col., Columbia U.; Supr. Prin., H. S. Bldg., Mt. Holly, N. J., since 1918.

Burdge, Howard G., B. A. '00, Allegheny Col.; M. A. '20, Ph. D. '22, Columbia Univ.; Prin. State Norm. Sch., Fredonia, N. Y., since 1922.

Burdick, Ernest H., Supt. of Sch., Middletown, N. Y.

Burdick, Raymond C., Supt. of Sch., Watertown, N. Y.

Burdick, William, Playground Athletic League, 7 E. Mulberry St., Baltimore, Md.

Burke, Jeremiah Edmund, B. A. '90, M. A. '93, D. L. '15, Colby Col.; LL. D. '22, Villa Nova Col.; Supt. of Sch., 15 Beacon St., Boston, Mass., since 1921.

Burnett, John M., B. S. '12, Univ. of Ala.; Supt. of Sch., Tuscaloosa, Ala., since 1924.

Burns, L. W., Supt. of Sch., Box 8, Martinsburg, W. Va.

Burrill, Fred W., A. B. '97, Bates Col.; Supt. of Sch., City Hall, Augusta, Maine, since 1922.

Burris, Benjamin J., Pres., Indiana State Normal Sch., Muncie, Ind.

Burt, R. F., A. B. '22, Oklahoma Univ.; Supt. of Sch., Glenpool, Okla., since 1922.

Burt, Rose W., Supt. of Sch., Bessemer, Mich., since 1911.

Burtsfield, F. A., Supt. of Sch., West LaFayette, Ind.

Bush, George C., A. B. '98, A. M '99, Ind. Univ.; Supt. of Sch., South Pasadena, Calif., since 1907.

Bush, Maybell G., Supv. of Elem, Sch., State Dept. of Pub. Instr., 26 North Butler St., Madison, Wis., since 1916.

Butler, John H. Manning, A. M. '96, Ph. D. '24, Livingstone Col.; Div. Supt. of Sch., Ilagan, Isabela, P. I., since 1921.

Butler, L. A., Ph. B. '13, Univ. of Chicago; M. A. '19, Columbia Univ.; M. Ed. '21, Mich. Normal Col.; Supt. of Sch., Grand Rapids, Mich.

Butler, S. B., B. A. '13, Yale Univ.; Supt. of Sch., Litchfield, Conn., since 1923.

Butler, S. R., Co. Supt. of Sch., 432 Eustis St., Huntsville, Ala.

Butterfield, E. W., State Supt. of Sch., Concord, N. H.

Butterworth, Julian E., Cornell Univ., Ithaca, N. Y.

Button, F. C., A. M. '08, Bethany Col.; Pres. Morehead St. Norm. Sch., Morehead, Ky., since 1923.

Byerly, C. C., A. B. '18, Manchester Col.; Supt. of Sch., 9 Allan Ave., West Chicago, Ill., since 1923.

Byrd, C. E., '83, Univ. of Va.; Parish Supt. of Sch., Shreveport, La., since 1907.

Byrne, Christopher J., Supt. of Sch., 300 Moloney Bldg., Ottawa, Ill.

Byrne, Lee, Prof. of Ed., La. State Univ., 949 Camelia Ave., Baton Rouge, La., since 1925.

Byrns, William D., Ph. B. '13, U. of Wis.; Supt. of Sch., 200 Cayuga St., Iron River, Mich., since 1918.

Cade, George N., Col. of Ed., U. of Ark., Fayetteville, Ark.

Caldwell, L. C., Supt. of Sch., 212 22nd St., Ashland, Ky.

Caldwell, L. L., Supt. of Sch., Hammond, Ind.

Caldwell, Otis W., Dir. Lincoln Sch., Dir. Inst. of Child Welfare Res., Dir. Inst. of Ed. Res., Tchrs. Col., Columbia U., 425 W. 123d St., New York, N. Y.

Callahan, John, State Supt. of Pub. Inst., Madison, Wis.

Cameron, E. T., Ex. Sec., Mich. St. Tchrs. Assn., 809 Prudden Bldg., Lansing, Mich.

Cameron, Norman W., A. B. '95, A. M. '00, Washington Col.; Ph. D. '12, U. of Pa., Supt. of Sch., Pottstown, Pa., since 1924.

Cammack, Ira I., A. B. '84, Earlham Col.; Supt. of Sch., 201 Library Bldg., Kansas City, Mo., since 1913.

Camp, Frederick Stanley, B. S. '91, Lehigh; N. Y. Univ. '10; State Super. of Elementary Educ., Hartford, Conn., since 1922.

Camp, Harold L., B. A. '14, Grinnell Col.; M. A. '17, Cornell U.; Ph. D. '21, State Univ. of Iowa; Assoc. Prof. Ed., Univ. of N. Dak., Box 431, Univ. Sta., Grand Forks, N. Dak., since 1923.

Campbell, Doak S., B. A. '11, Ouachita Col.; Pres. Central Col., Conway, Ark., since 1920.

Campton, C. E., Supt. of Sch., Two Harbors, Minn.

Canine, Edwin N., A. B. '01, Ind. State Univ.; Supt. of Sch., East Chicago, Ind., since 1904.

Cannon, Arthur M., Ph. B. '98, DePauw Univ.; Supt. of Sch., Hood River, Oregon, since 1920.

Cantwell, J. W., A. B. '93, Baylor U.; A. B. '94, Yale Univ.; A. M. '02 LL. D. '20, Baylor Univ.; Supt. of Sch., 1105 Holliday St., Wichita Falls, Tex., since 1923.

Capen, Samuel Paul, A. B. '98, Tufts Col.; A. M. '00, Harvard U.; Ph. D. '02, U. of Pa.; LL. D. '20, Lafayette Col.; L. H. D. '24, Hobart Col.; Chanc. Univ. of Buffalo, 3435 Main St., Buffalo, N. Y., since 1922.

Caradine, Jane, 1810 Bingham Street, Houston, Tex.

Carlisle, Carrie, A. B. '14, Southwestern Col., Winfield, Kans.; Supt. of Pub. Instr., Court House, Winfield, Kans., since 1923.

Carlson, E. C., Supt. of Sch., Rockford, Mich.

Carmical, R. C., A. B. '15, Hendrix Col.; Co. Supt. Sch., Rison, Ark., since 1920.

Carmichael, Omer, A. B. '14, Univ. of Ala.; A. M. '24, Columbia Univ.; Supt. of Pub. Sch., Box 687, Selma, Ala., since 1920.

Carpenter, D. E., Dean, I. C. S., Scranton, Pa.

Carpenter, D. F., Supt. of Sch., Millers Falls, Mass.

Carr, Ernest Palmer, A. B. '01, Brown Univ.; S. M. '05, Brown Univ.; Supt. of Sch., Marlboro, Mass., since 1912.

Carr, J. P., Supt. of Sch., Vicksburg, Miss.

Carr, J. W., State Normal Sch., Murray, Ky.

Carreker, H. B., A. B. '00, Mercer Univ.; Supt. of Sch., Dublin, Ga., since 1924.

Carrick, Charles H., A. B., Univ. of Mich: Supt. of Sch., Three Rivers, Mich.

Carrick, C. M., A. B. '91, Ohio Univ.; A. M. '15, Columbia Univ.; Supt. of Sch., Bellevue, Ohio, since 1918.

Carris, Lewis H., 130 E 22d St., New York, N.Y.

Carroll, B., Co. Supt. of Sch., Court House, Fort Worth, Texas.

Carroll, Charles, A. B. '98, Brown Univ.; LL. B. '01, Harvard Univ.; A. M. '13, Ph. D. '15, Brown Univ.; Dir. Voc. Ed., 119 State House, Providence, R. I., since 1916.

Carroll, George C., A. B. '15, Univ. of Va.; Supt. of Sch., H. S. Bldg., Garrett, Ind., since 1919.

Carroll, H. S., Supt. of Sch., West Liberty, Ohio.

Carroon, Frank, A. B. '02, Univ. of Indiana; M. A. '13, Univ. of Denver; Pres. New Mexico Normal Univ., 425 Ninth Street, East Las Vegas, N. Mex., since 1923.

Carrothers, George E., B. A. '09, Ind. Univ.; M. A. '15, T. C. Columbia U.; Ph. D. '24, Columbia U.; Prof. of Ed., Dept. of Sch. Admin., Ohio U., Athens, Ohio, since 1924.

Carter, Charles G., Diploma '22, Western State Normal and Tr. Sch.; Supt. of Sch., Town Hall, Main St., Westford, Mass., since 1924.

Carter, Ewell M., B. S. in Educ., '05, Univ. of Mo.; Secretary, Mo. State Teachers Assn., Columbia, Mo., since 1915.

Carter, Mrs. Susanne H., '96 Oreg. State Normal; Co. Supt. of Sch., Jacksonville, Oreg., since 1920.

Case, Egbert A., A. B. '04, A. M. '08, Bates Col.; Supt. of Sch., Windham H. S., Williamantic, Conn., since 1910.

Case, L. V., Diploma, '97, N. Y. State Normal; B. S. '00; N. Y. Univ.; Supt. of Sch., Washington Irving H. S., Tarrytown, N. Y., since 1900.

Case, R. D., M. A. '23, Univ. of Denver; Supt. of Sch., 323 Cameron, Brush, Colo., since 1924.

Casey, Charles C., A. M. '06, Univ. of Denver; A. B. '04, Ark. Conference Col.; Supt. of Sch., Longmont, Colo., since 1913.

Casey, John C., B. S. '08, Arkansas Conference Col.; M. A. '09, Univ. of Denver; Supt. of Sch., Second St., Eaton, Colo., since 1922.

Casey, William V., Supt. of Sch., Boulder, Colo., since 1884.

Cash, Hamilton La Rue, Ph. B. '10, Ohio Univ.; Supt. of Sch., Girard, Ohio, since 1913.

Cassady, E. N., Supt. of Sch., Brookfield, Ill.

Cassel, Lloyd S., A. B. '13, Ursinus Col., Prin. H. Sch., 111 South St., Freehold, N. J., since 1923.

Caswell, Inez, Clippert Sch., Detroit, Mich.

Cauthorn, E. B, B. S. in C. E., '94, B. S. in Ed., '15, Univ. of Mo.; Asst. Supt. of Schools, Board of Ed., Dallas, Tex., since 1924.

Cavanaugh, J. F. Supt. of Sch., 435 Metaxen St., Kaukauna, Wis.

Cawthon, W. S., State Supt. of Sch., Tallahassee, Fla.

Certain, C. C., Editor, The Elementary English Review, 6505 Grand River Ave., Detroit, Mich.

Chace, S. Howard, A. B. '93, A. M. '96, Brown Univ.; '02, Hyannis State Normal Sch.; Ed. M. '25, Harvard Univ.; Supt. of Sch., Beverly, Mass., since 1913.

Chadwick, Raymond D., Ph. B. '09, Frank Col.; M. A. '24, Columbia U.; Prin. Morgan Park High and Stowe Sch., Morgan Park, Duluth, Minn., since 1916.

Chamberlain, Arthur H., B. S. '03, A. M. '04, Columbia U.; Ex. Sec. Calif. Tchrs. Assn. and Mg. Ed., Sierra Ed. News, 930 Phelan Bldg., San Francisco, Calif., since 1912.

Chambers, W. Max, Diploma, '13, Okla. Central State Normal; B. S. '15 Berea Col.; A. B. '21. Okla. Univ.; Supt of Sch., Perry, Okla., since 1923.

Chambers, Will Grant, A. B. '94, M. A. '97, Litt. D. '17, Lafayette Col.; B. S. '95, Ind. St. Norm. Sch.; Dean, Sch. of Ed., Pa. St. Col., State College, Pa., since 1921.

Champion, Charles F., Supvg. Prin., Morris Plains, N. J.

Champlin, Carroll D., Ph. D. '25, Univ. of Pittsburgh; M. A. '15, A. B. '14, Haverford Col., Prof. of Ed., St. Normal Sch., California, Pa., since 1921.

Chandler, F. H., A. B. '11, Morningside Col.; Supt. of Sch., Sheldon, Iowa, since 1920.

Chandler, J. A. C., Pres. College of William and Mary, Williamsburg, Va.

Chapelle, Ernest H., A. B. '21, Univ. of Mich.; Supt. of Sch., Charlotte, Mich., since 1924.

Chapman, Ira T., A. B. '03, Ohio Wesleyan Univ., A. M. '05, Harvard Univ.; Supt. of Sch., 417 So. Broad St., Elizabeth, N. J., since 1923.

Chapman, J. Virgil, State Supr. Rural Schs., State Capitol, Frankfort, Ky., since 1916.

Charles, Oscar H., B. A. '07, Otterbein Col, 76 W. Park St., Westerville, Ohio, since 1920.

Chase, W. Linwood, A. B. '20, Univ. of Maine; Supt. of Sch., Boothbay Harbor, Maine, since 1924.

Chase, Willard O., Supt. of Sch., Old Town, Maine.

Cheney, Charles H., Diploma, '99, Normal School, Dist. Supt. 2nd Dist. Westchester Co., Court House, White Plains, N. Y., since 1906.

Cheney, R. E., A. B. '20, Central Mich. Normal; M. A. '25, Univ. of Mich.; Supt. of Sch., H. S. Escanaba, Mich., since 1925.

Cherry, H. H., LL. D., Pres. Western St. Tchrs. Col. and Norm. Sch., Bowling Green, Ky., since 1907.

Cherry, T. C., A. B. '92, So. Normal Sch.; Supt. of Sch., Bowling Green, Ky., since 1905.

Chew, Samuel L., B. S. '05, Temple Univ.; A. M. '16, Univ. of Pa.; Pd. D., '25, Ursinus Col.; Dist. Supt. of Sch., Northwest Sch., 15th and Race Sts., Philadelphia, Pa., since 1906.

Chewning, John O., A. B. '01, Indiana Univ.; Supt. of Sch., cor. 7th and Vine Sts., Evansville, Ind., since 1924.

Child, George N., B. S., Univ. of Utah; Supt. of Sch., 313 City and County Bldg., Salt Lake City, Utah, since 1920.

Childress, O. R., Diploma '14, N. Texas State Tchr. Col.; Supt. of Sch., Chillicothe, Tex., since 1920.

Chittenden, Harold E., A. B. '09, Yale Univ.; Supt. of Sch., Naugatuck, Conn., since 1918.

Churchill, J. A., A. B., M. A., Ohio Northern Univ., M. A., Univ. of Oregon; State Supt. of Pub. Inst., Capitol Bldg., Salem, Oreg., since 1913.

Clapp, George I., A. B. '95, Harvard Univ.; Supt. of Sch., 10 Davis St., Woburn, Mass., since 1903.

Clark, C. I., Supt. of Sch., Drawer N., Stambaugh, Mich.

Clark, Charles S., A. B. '82, A. M., Dartmouth; LL. B., Geo. Wash. Univ.; Supt. of Sch., Somerville, Mass., since 1908.

Clark, E. L., Supt. of Sch., Chelsea, Mich.

Clark, Harold F., Ph. D., '23, Tchrs. Col., Columbia Univ.; Assoc. Prof. of Ed. Admin., Sch. of Ed., Ind. Univ., Bloomington, Ind., since 1923.

Clark, John S., Supt. of Sch., 20 N. St. James St., Waukegan, Ill.

Clark, Louise, B. S. '02, Columbia Univ.; Co. Supt. of Sch., Court House, Santa Rosa, Calif., since 1923.

Clark, M. G., A. M., LL. D.; Supt. of Sch., 101 City Bldg., Sioux City, Iowa.

Clark, Mary R., Prin. Sch. Dept., State Hosp. for Crip. Children, St. Paul, Minn.

Clark, Randolph Lee, Supt. of Sch., 629 N. Dixon St., Gainesville, Tex.

Clark, Ridgley C., B. A. '08, Bowdoin College; Supt. of Sch., Seymour, Conn., since 1917.

Clarke, Ernest P., B. S. '83, Mich. Ag. Col., Supt. of Sch., 1922 Niles Ave., St. Joseph, Mich., since 1899.

Clarke, George B., A. B. '03, Harvard Univ.; Supt. of Sch., East Pepperell, Mass., since 1920.

Clauson, Robert, A. B. '02, Cornell Univ.; Div. Supt. of Sch., Iloilo, Iloilo, P. I.

Claxton, P. P., A. B. '82, A. M. '87, Univ. of Tenn.; Litt. D., Bates Col.; LL. D., Allegheny Col.; Supt. of Sch., 410 So. Cincinnati, Tulsa, Okla., since 1923.

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Clerk, F. E., Ph. B. '03, Yale Univ.; LL. B. '10, Lincoln-Jefferson; Supt. of Sch., New Trier Township High School, Winnetka, Ill.

Clevenger, Arthur, Supt. of Sch., Wakefield, Mich.

Clevenger, T. M., Supt. of Sch., Waverly, Iowa.

Clift, Gilbert B., A. B. '13, Okla. Baptist; Supt. of Sch., Bartlesville, Okla.

Clifton, A. R., Ph. B. '08, U. of Wis.; M. A. '18, U. of So. Calif.; Supt. of Sch., Monrovia, Calif., since 1918.

Close, Frank H., Ph. B. '10, Lebanon Univ.; Co. Supt. of Sch., Millersburg, Ohio, since 1914.

Cloud, A. J., B. L. '00, Univ. of Calif.; Chief Deputy Supt. of Sch., City Hall, San Francisco, Calif., since 1923.

Clough, G. O., B. A. and M. A., U. of Tex.; Supt. of Sch., Tyler, Tex., since 1920.

Clower, T. A., Supt. of Sch., Hawkinsville, Ga.

Clowes, Frederick Arthur, B. S. A. '08, Toronto Univ.; Prin. Schofield High Sch., Schofield Barracks, Hawaii.

Cloyd, Emerson, Supt. of Sch., Cambridge, Ind.

Coates, T. J., Pres. Eastern Ky. State Teachers Col., Richmond, Ky.

Coats, Marion, A. B. '07, Vassar Col.; M. A. '12, Radcliffe Col.; Prin. of Bradford Academy, Bradford, Mass., since 1918.

Cobb, B. B., Supt. of Sch., Waco, Tex.

Cobb, C. R., A. B. '03, Greenville Col; A. M. '05, Univ. of Mich.; Supt. of Sch., Bessemer, Mich., since 1913.

Cobb, T. H., Supt. of Sch., Mt. Carmel, Ill.

Coblentz, C. R., Co. Supt. of Sch., Eaton, Ohio.

Coburn, William G., A. B. '90, Univ. of Mich.; LL. D. '23, Olivet Col.; Supt. of Sch., 135 College St., Battle Creek, Mich., since 1895.

Cocking, Walter D., B. A. '13, Des Moines Col.; M. A. '22, State Univ. of Iowa; Dir. of Research, Bd. of Ed., St. Louis, Mo.

Cody, Frank, Pd. M. '12, Mich. State Norm. Col.; M. A. '24 Univ. of Mich.; Supt. of Sch., 1354 Broadway, Detroit, Mich., since 1919.

Coffman, Lotus D., B. A. '06, M. A. '10, Ind. Univ.; Ph. D. '11, Columbia Univ.; LL. D. '22, Ind. Univ.; Pres. Univ. of Minn., Minneapolis, Minn.

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Cole, C. E., B. S. '17, Muhlenberg Col.; A. M. '22, Columbia Univ.; Supv. Prin., Muhlenberg Twp Sch., Temple, Pa.

Cole, Thomas R., Ph. B. '02; A. M. '03, Upper Ia. U.; Supt. of Sch., Central Bldg., Seattle, Wash.

Colebank, Geo. H., A. B. '22, West Virginia Univ.; Supt. of Sch., Beckley, W. Va., since 1923.

Coleman, W. H., A. B. '09, Nebr. Wes; A. M. '16, U. of Nebr.; Supt. of Sch., Central Sch. Bldg., Rawlins, Wyo., since 1923.

Collett, C. E., Supt. of Sch., Lexington, Nebr.

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Collier, Price L., B. S. in Ed. '17, Univ. of Mo.; Supt. of Sch., Richmond, Mo., since 1922.

Collins, Leonard F., Supt. of Sch., Burbank, Calif.

Collins, Robert A., Franklin Sch., Port Arthur, Tex.

Colson, E. P., Supt. of Sch., North Scituate, R. I.

Coltrane, E. J., A. B. '07, Guilford Col.; A. M. '25, Columbia Univ.; Supt. of Sch., Roanoke Rapids, N. C., since 1919.

Colwell, Rachel H., M. A. '03 Columbia Univ.; Head, Dept. of Home Econ., Univ. of West Virginia, Oglebay Hall, Morgantown, W. Va., since 1910.

Condon, John F., A. B. '82, N. Y. City Col.; A. M. '02, Fordham U.; Ph. D. '04, N. Y. U.; Prin. P. S. 12 Bronx, Prof. of Ed., Col. of New Rochelle, 2974 Decatur Ave., New York, N. Y., since 1902.

Condon, Randall J., A. B. '86, A. M. '89, LL. D. '13, Colby Col.; LL. D. '25, Univ. of Cincinnati; Supt. of Sch., Denton Bldg., Cincinnati, Ohio, since 1913.

Congdon, Fayette K., A. B. '94, A. M. '97, Syracuse U.; Supt. of Sch., Northampton, Mass., since 1905.

Conn., U. S., Pres. State Teachers Col., Wayne, Nebr.

Conniff, John Robinson, A. B. '94, Tulane Univ.; A. M. '23, La. State Univ.; Chrmn. Div. of Tchr. Tr. and Cert., State Dept. of Ed., Baton Rouge, La., since 1923.

Connor, William L., A. B. '14, Indiana Normal; Dir. of Research, 432 E. 109 St., Cleveland, Ohio, since 1923.

Conrad, R. D., A. M. '22, Wittenberg Col.; Supt. of Sch., Galion, Ohio, since 1924.

Converse, Frank E., B. L. '88, Univ. of Mich.; Supt. of Sch., Beloit, Wis., since 1897.

Conwell, Russell H., LL. B. '66, Albany Law Sch.; D. D. '98, LL. D. '00, Temple Univ.; Pres. of Temple Univ., Philadelphia, Pa., since 1884.

Cook, A. F., B. A. '10, Ripon Col.; Supt. of Sch., Hinsdale, Ill., since 1919.

Cook, Albert S., A. B. '95, A. M. '06, Princeton Univ.; Litt. D. '24, Univ. of Md., '23, St. Johns Col.; '23, Western Md. Col.; State Supt. of Sch., 15 Aigburth Rd., Towson, Md., since 1920.

Cook, Jason O., A. B. '06, A. M. '07, Brown Univ.; Supt. of Sch., Amherst, Mass., since 1920.

Cook, L. T., Supt. of Sch., 509 W. Lindsey, Breckenridge, Tex.

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Cooley, James C., A. B. '21, DePauw; Supt. Milton Twp. Centralized Sch., Milton Center, Ohio, since 1924.

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Cory, Frank M., A. B. '17, Ind. U.; A. M. '23, Tchrs. Col.; Dist. Supt. of Sch., 221 S. Main St., Oxford, Ohio, since 1923.

Coston, I. A., B. A. '03, Univ. of Tex.; Supt. of Sch., Lufkin, Tex., since 1917.

Cotton, Carl, A. B. '00, Colby Col.; LL. M. '06, U. of Maine; Supt. of Sch., School Dept., Derry, N. H., since 1920.

Cotton, F. A., A. B. '02, Butler Col.; Ph. B. '02, Univ. of Chicago; LL. D. '05, Franklin Col.; Pres. Northern Ariz. State Tchrs. Col., Flagstaff, Ariz., since 1924.

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Countryman, Irving N., B. A. '05, M. A. '06 Yale Univ.; Asst. Prof. of Visual Ed., Dept. of Ed., Yale Univ., New Haven, Conn., since 1924.

Courtis, Stuart A., B. S. '19, M. A. '21, Tchrs. Col., Columbia U.; Ph. D. '25, Univ. of Mich.; Educational Consultant, Detroit, Mich., Pub. Schs.; Prof. of Ed., Sch. of Ed., Univ. of Mich., Ann Arbor, Mich., since 1924.

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Cox, Harry S., Supt. of Sch., City Bldg., Covington, Ky.

Coxe, Charles, A. B., Ph. B. '05, Lafayette Univ., A. M. '12, Harvard Univ.; Supt. of Sch., Lewistown, Pa.

Coxe, Warren W., B. Sc. '11, Dakota Wesleyan U.; Ph. D. '23, Ohio State U.; Chief, Ed. Measmnts., Bur. St., Dept. of Ed., Albany, N. Y., since 1923.

Crabb, Alfred Leland, B. S. '16, Peabody Col. for Tchr.; M. A. '21, Tchrs Col., Columbia Univ.; Ph. D. '25, Peabody Col for Tchrs.; State Tchr. Col., Bowling Green, Ky., since 1925.

Craig, Geo. W., Supv. Prin. of Sch., East Pittsburgh, Pa.

Crandell, C. W., A. M. '19, Supt. of Sch., Monroe, Mich., since 1925.

Crane, Arthur G., U. of Wyo., Laramie, Wyo.

Cranefield, Edna, Aberdeen Normal, Diploma; County Supt. of Sch., Redfield, S. Dak., since 1920.

Cranmer, Clyde W., Supt. of Sch., Kittanning, Pa.

Cranor, John R., Ph. B. '19, Univ of Chicago; Supt. of Sch., Sandwich, Ill., since 1922.

Crawford, Clarence C., Ph. B. '06, Grove City Col.; Prin. Edinboro St. Norm. Sch., Edinboro, Pa., since 1921.

Crawford, Floyd W., 22 S. 4th St., Niles, Mich.

Crawford, M. J., A. B. '23, Central Mich. Normal Sch., Supt. of Sch., Reed City, Mich., since 1923.

Crawford, Otis O., A. B. '01, Ohio Wesleyan Univ.; Supt. of Sch., 216 W. Washington, Nelsonville, Ohio, since 1924.

Crawford, Will C., A. B. '13, Pomona Col.; A. M. '15, Columbia Univ.; Deputy Supt. of Pub. Instr., Honolulu, Hawaii, since 1923.

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Creel, E. O., Supt. of Sch., Guntersville, Ala.

Creel, L. E., Supt. of Sch., Sheffield, Ala.

Creswell, Cordelia M., B. Pd. '11, Grand Rapids Kndgtn. Tr. Sch.; Sup. Special Classes, Bd. of Ed., Jr. Col. Bldg., Grand Rapids, Mich., since 1910.

Crocker, J. N., Pd. M. '13, T. C. Warrensburg, Mo.; B. S. '20, Univ. of Mo.; M. A. '24, Tchrs. Col., Columbia Univ.; Supt. of Sch., Smith Cotton H. S., Sedalia, Mo.

Cross, H. A., B. A. '16, Grinnell Col.; Prin. Univ. Sch., Iowa State Univ., Iowa City, Iowa, since 1924.

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Crumb, Herbert H., A. B. '05, A. M. '09, Hamilton; Supt. of Sch., Endicott, N. Y., since 1913.

Crumpacker, H. C., B. S. D. '04, A. B. '08, Normal Col., McPherson, Kans.; Ph. M. '10, Univ. of Chicago; Supt. of Sch., High Sch. Bldg., Hoquiam, Wash., since 1922.

Cubberley, Ellwood P., A. B. '91, Ind. U.; A. M. '02, Ph. D. '05, Columbia U.; LL. D. '23, Univ. of Iowa; Dean Sch. of Ed., Stanford University, Calif., since 1898.

Cummings, Frank L., A. B. '04, A. M. '11, U. of Chicago; Supt. of Shorewood Sch., Milwaukee, Wis., since 1923.

Cummings, L. O., A. B. '10, A. M. '11, Ed. D. '21, Harvard Univ.; Asst. Prof. of Educ., Harvard Sch. of Ed., Cambridge, Mass., since 1921.

Cunningham, Helen, Fairfield, Tenn.

Cunningham, J. N., Supt. of Sch., Carroll, Iowa.

Curfman, Wayne White, A. M. '20, T. C. Columbia U.; Ass't. Supt., 15th and N St., Lincoln, Nebr., since 1920.

Curtis, Charles L., Supt. of Sch., Hollis St., Groton, Mass.

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Cutler, Henry F., B. A. '86, M. A. '04, Amherst Col.; D. C. L. '16, Syracuse Univ.; LL. D. '25, Wesleyan; Headmaster, Mt. Hermon Sch., Mt. Hermon, Mass., since 1890.

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Dakin, W. S., Regional Supvr. of Rural Ed., Hartford, Conn.

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Daniel, Frank C., M. S. '01, A. M. '02, Dickinson; Prin. McKinley Tch. H. S., Washington, D. C., since 1911.

Daniel, John C., A. B. '95, Wofford Col.; Supt. of Sch., 139 North St., Darlington, S. C., since 1912.

Daniel, Roland B., Supt. of Sch., 1500 Broad St., Columbus, Ga.

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Dann, Hollis, Mus. D. '06, Alfred U., State Dir. of Music, 3213 N. Front St., Harrisburg, Pa., since 1921.

Danowsky, N. A., A. B. '15, A. M. '25, Susquehanna Univ.; Supv. Prin. of Sch., 346 Queen St., Northumberland, Pa., since 1922.

Darling, Frederick R., A. B. '03, Univ. of Chicago, Supt. of Sch., Dunkirk, N. Y., since 1916.

Darling, William T., Supt. of Sch., Wauwatosa, Wis.

Darst, E. L., Diploma '86, B. S. '87, C. E. '88, Va. Mil. Inst.; Div. Supt. of Sch., P. O. Box 697, Pulaski, Va., since 1909.

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Davis, Charles S., Supt. of Sch., Steelton, Pa.

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Davis, Geo. E., Prin. Sr. High Sch., Keokuk, Iowa.

Davis, H. A., A. B. '06, Olivet, Mich.; Supt. of Sch., Port Huron, Mich., since 1917.

Davis, H. H., Div. of Research, Bd. of Ed., 911 Locust, St. Louis, Mo.

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Davis, J. Thomas, B. S. '20, A. and M. Col., of Tex.; A. B. '18, M. A. '21, Univ. of Tex.; Dean John Tarleton Agri. Col., Stephenville, Tex., since 1919.

Davis, Mary Dabney, M. A. '24, T. C. Columbia U.; Specialist in Nursery, Kdgn. and Prim. Ed., U. S. Bureau of Ed., Washington, D. C.

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Davis, M. G., A. B. '14, Ind. Univ.; A. M. '20, Wis. Univ.; Supt. of Sch., Indianola, Iowa.

Davis, T. F., A. B. '16, N. W. Col.; Supt. of Sch., Royal Oak, Mich., since 1923.

Davis, T. S., Co. Supt. of Sch., Hollidaysburg, Pa.

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Deahl, J. N., A. B. '93, Harvard U.; Ph. D. '06, Columbia U.; Hd. Dept. of Ed., Prof. of Ed., W. Va. U.; 442 Park St., Morgantown, W. Va., since 1901.

Deamer, Arthur, Supt. of Sch., Cedar Rapids, Iowa.

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Dean, R. G., Supt. of Sch., California, Pa.

Dearborn, Ned H., M. A. '24, Columbia Univ.; Student Asst. to Adviser in Ed. Res. of Commonwealth Fund; 509 W. 121st St., New York, N. Y., since 1924.

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De La Rue, Harry, A. B. '13, Ohio Univ.; A. M. '19, Univ. of Chicago; Prin. H. S., Plaquemine, La., since 1919.

De Lay, Glenn A., Supt. of Sch., Neodesha, Kans.

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Dennis, S. C., Supt. of Sch., Toronto, Ohio, since 1916.

Dennison, Gertrude, B. A. '98, Alfred Col.; Supv. Elemen. Gr., Sioux City, Ia., since 1913.

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Doughton, Isaac, A. B. '07, Harvard Univ.; A. M. '22, Ph. D. '25, Univ. of Pa.; Head Dept. of Ed., State Normal Sch., Mansfield, Pa., since 1924.

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Douglass, Carleton E., Ph. B. '99, Univ. of Chicago; A. M. '17, Columbia Univ.; Asst. Supt. of Sch., Madison and Lafayette, Baltimore, Md., since 1921.

Douthett, Walter R., A. B. '12, Ursinus Col.; A. M. '20, U. of Pa.; Supt. of Sch., Walnut St., Darby, Pa., since 1922.

Dow, H. E., B. A. '06, State U. of Ia.; Supt. of Sch., Villisca, Ia., since 1924.

Dow, Harold F., B. S. '10, Colby; Supt. of Sch., Box D, Swampscott, Mass., since 1920.

Dowling, H. G., Co. Supt. of Sch., Cullman, Ala.

Downey, Michael J., A. B. '04, A. M. '14, Boston Col.; Asst. Supt. of Sch., 15 Beacon St., Boston, Mass., since 1924.

Downing, Elliot R., Univ. of Chicago, Chicago, Ill.

Drake, Ellis H., A. B. '04, U. of Ind.; Supt. of Sch., 503 Peck Bldg., Kalamazoo, Mich., since 1915.

Drake, Flora E., M. A. '17, Columbia U.; B. A. '11, Ind.; Asst. Supt. of Sch., 150 N. Meridian St., Indianapolis, Ind., since 1922.

Drake, O. B., B. S. '02, Ohio Northern Univ.; A. B. '10, Denver Univ.; Supt. of Sch., Canon City, Colo., since 1919.

Dressel, Herman, B. L. '90, M. A. '95, Litt. D. '25, Norwich Univ.; Supt. of Sch., 149 Stewart Ave., Kearney, N. J., since 1907.

Driver, Lee L., A. B. '19, Ind. Univ.; B. A. '19, Earlham Col.; LL. D. '21, Wabash Col.; Dir. of Consolidation Projects, State Dept. of Pub. Instr., 711 N. 2nd St., Harrisburg, Pa., since 1920.

Drown, Carrol H., Supt. of Sch., Hopedale, Mass.

Drummond, Glenn, A. B. '09, O. N. U.; A. B. '11 Antioch; Co. Supt. of Sch., Bellefontaine, O., since 1923.

Dryden, Chas. E., Supt. of Sch., University City, Mo.

Duboc, Jessie L., M. A. '22, Univ. of Chicago; Asst. Prof. of Ed., State Normal Col.; Dillon, Mont.

Duffey, H. S., Supt. of Sch., Winchester, Va.

Duffield, Edmund T., A. B. '04, Middlebury Col., Vt.; A. M. '08, Columbia Univ.; 437 5th Ave., New York, N. Y.

Dugan, James, B. A. '02, Amherst Col.; Asst. Supt. of Sch., Cambridge, Mass., since 1920.

Duggan, M. L., State Sch. Supvr., State Capitol, Atlanta, Ga.

Duncan, J. F., A. B. '03, U. of Nebr.; Dean Cotner Col., Hd. Dept. of Ed., Bethany, Nebr., since 1919.

Duncan, Wm. M., 596 Jeff Ave., Elizabeth, N. J.

Duncanson, Alexander J., A. B. '12, Alma Col.; Supt. of Sch., East Jordan, Mich., since 1921.

Dunckel, O. E., B. S. '21, Mich. Agr. Col.; Supt. of Sch., Box 72, Sand Creek, Mich., since 1922.

Dungan, John U., B. S. '19, Univ. of Ill.; Supt. of Sch., Lockland, Ohio, since 1923.

Dunkle, John L., B. S. '12, W. Va. Univ.; M. A. '17, Tchrs. Col., Columbia Univ.; Prin., State Normal Sch., Frostburg, Md., since 1923.

Dunlavy, William A., B. A. '17, Highland Park; Supt. of Sch., Osceola, Iowa, since 1922.

Dwight, Charles A. S., B. A. '81, Yale Col.; M. A. '01, N. Y. U.; M. A. '02, Yale U.; Ph. D. '09, Boston U.; Hd. Dept. of Ed.; Prof. of Psycho., Keuka Col., Box 126, Keuka Park, N. Y., since 1923.

Dyson, Caroline A., State Normal Sch., East Stroudsburg, Pa.

Eagleson, J. O., B. S. '09, Muskingum Col.; Supt. of Sch., 317 S. Pickaway St., Circleville, Ohio, since 1920.

Earley, Albert, State Rural Supv., Georgetown, Del.

Early, J. J., A. B. '01, Ind.; Supt. of Sch., Box 897, Sheridan, Wyo., since 1908.

Earnest, W. W., A. B. '08, A. M. '24, Univ of Ill.; Supt. of Sch., P. O. Box 136, Champaign, Ill., since 1908.

Eaton, Henry M., B. A. '17, Fremont Col.; M. Sc. '01, Salins Univ.; Co. Supt. Pub. Inst., Court House, Omaha, Nebr., since 1923.

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Eckert, Paul Y., A. B. '06, Dickinson; LL. B. '16, Univ. of Oreg.; A. M. '20 Dickinson; Supt. of Sch., Ocean Grove, N. J., since 1920.

Eckles, A. K., Co. Supt. of Sch., Cleveland, Miss.

Eckles, Isabel Lancaster, M. A. '23, State Tchrs. Col.; State Supt. of Pub. Inst., State House, Santa Fe, N. Mex., since 1923.

Eckles, Port, A. B. '14, Hiram Ohio Col.; A. M. '24, Univ. of Pittsburgh; Supt. of Sch., Homestead, Pa., since 1922.

Eddy, Arthur W., A. B. '04, Middlebury; Supt. of Sch., 34 Weybridge St., Middlebury, Vt., since 1911.

Eddy, William Holden, A. B. '92, A. M. '93, Ph. D. '99, Brown U.; 1st Asst. Supt. Sch., 9 Exchange Terrace, Providence, R. I., since 1918.

Edel, William W., A. B. '15, A. M. '18, Dickinson Col.; S. T. B. '18, Sch. of Theology, Boston Univ.; Supt. of Ed., Pago Pago, American Samoa, since 1924.

Edmunds, Henry H., '95, Ill. State Normal Univ. Diploma; Supt. of Sch., 617 W. Main, Clinton, Ill., since 1907.

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Eikenberry, W. L., B. S. '94, Univ. of Mich.; Head Science Dept., Norm. Sch., East Stroudsburg, Pa., since 1922.

Eisenhart, W. W., B. S. '17, M. A. '21, Univ. of Pa.; Supt. of Sch., Tyrone, Pa., since 1921.

Elcan, E. G., A. B. '08, Hampden Sidney Col.; Supt. of Sch., Bainbridge, Ga., since 1920.

Eldred, Arvie, Supt. of Sch., Troy, N. Y.

Eldredge, A. C., Asst. Supt. of Sch., Board of Ed., Cleveland, Ohio.

Elliott, A. W., A. B. '05, Ohio Wesleyan Univ.; Supt. of Sch., 704 N. Gay St., Mt. Vernon, Ohio, since 1921.

Elliott, E. A., Supt. of Sch., 622 W. 4th St., Cameron, Mo.

Elliott, Robert I., B. S. '01, Wayne, Nebr. Norm. Col.; A. B. '14, Univ of Nebr.; Pres., Nebr. State Norm. Col., Chadron, Nebr., since 1915.

Ellis, H. A., A. B. '14, Washington State Col.; Supt. of Sch., H. S. Bldg., Colfax, Wash., since 1924.

Ellis, Henry G., A. B. '10, Randolph-Macon Col., Supt. of Sch., City Hall Annex, Petersburg, Va., since 1923.

Ellis, Radford Terrell, B. A. '15, Tex. Christian U.; Ex. Sec. Tex. State Tchrs. Assn., 708 N. P. Anderson Bldg., Fort Worth, Tex., since 1916.

Elmendorf, George M., Supt. of Sch., 121 Court St., Plattsburgh, N. Y.

Emmett, H. T., Ph. B. '13, Wisconsin Univ.; Supt. of Sch., Worland, Wyo., since 1916.

Emmons, Frederick E., A. B. '02, Cornell Univ.; Ph. D. '25, Columbia Univ.; Dir. Ed. Travel, 585 Fifth Ave., New York, N. Y., since 1925.

Emmons, P. C., A. B. '00, Ind. U.; A. M. '14, Tchrs. Col.; Supt. of Sch., Mishawaka, Ind., since 1922.

Endsley, Andrew D., Supt. of Sch., Tarentum, Pa.

Engelhardt, Fred, Ph. B. '08, Yale U.; M. A. '15, Ph. D. '24, T. C. Columbia U.; Prof. Ed. Admin., Univ. of Minn., Col. of Ed., Minneapolis, Minn., since 1924.

Engelhardt, N. L., A. B. '03, Yale Univ.; Ph. D. '18, Columbia Univ.; Prof. of Ed., Teachers Col., Columbia Univ., New York, N. Y., since 1918.

Engleman, James O., '01, Ind. State Normal Sch. Diploma; A. B. '05, Ind. Univ.; A. M. '18, Univ. of Chicago; LL. D. James Millikin Univ.; Supt. of Sch., Terre Haute, Ind., since 1924.

English, Mildred E., B. S. '21, Peabody Col.; Asst. Supt. of Sch., Box 881, Raleigh, N. C., since 1924.

Englund, Walter E., Supt. of Sch., Ely, Minn.

Erickson, Anna E., Co. Supt. of Sch , International Falls, Minn., since 1924.

Erickson, Arthur G., A. B. '11, A. M. '16, Univ. of Mich.; M. Ed. '22, Mich. State Normal Col.; Supt. of Sch., Ypsilanti, Mich., since 1919.

Erickson, John E., Supt. of Sch., 249 College Ave., Houghton, Mich.

Ernst, Lillie R., Ph. B. '92, A. M. '07, Wash. Univ.; Asst. Supt. of Sch., 6058 Kingsbury Blvd., St. Louis, Mo., since 1920.

Ervin, Walter Evan, Ph. B. '95, DePauw U.; A. M. '12, T. C. Columbia Univ.; Prof. Sec. Ed., Centre Col., Box 232, Danville, Ky., since 1919.

Erwin, Robert L., A. B. '92, A. M. '07, Yale Univ.; D. Ped. '18, Ohio Univ.; Supt. of Sch., Steubenville, Ohio, since 1907.

Erwin, S. N., A. B. '09, LL. B. '11, Univ. of Mo.; Supt. of Sch., Powell, Wyo., since 1918.

Essery, Florence V., A. B. '14, M. A. '24, Univ. of Mich.; Co. Sch. Com., Court House, Ann Arbor, Mich., since 1924.

Estill, Harry F., Litt. D. '07, Austin Col. Pres. Sam Houston State Teachers Col , Huntsville, Tex., since 1908.

Estrich, John L., Supt. of Sch., Angola, Ind.

Evans, A. R., Supt. of Sch., 504 Fifth St., Corbin, Ky.

Evans, C. W., Business Mgr., Decatur Sch., H. S. Bldg., Decatur, Ill., since 1923.

Evans, Frank, '83, George Peabody Col.; LL. D. '20, Univ. of S. Car.; Supt. of Sch., 163 North Dean, Spartanburg, S. C., since 1895.

Evans, L. B., Co. Supt. of Sch., Augusta, Ga.

Evenden, Edward S., '03, Oregon Normal Sch. Diploma; A. B. '10, A. M. '11, Stanford Univ.; Ph. D. '19, Columbia Univ.; Prof. of Ed., Tchrs. Col., Columbia University, 525 W. 120th St., New York, N. Y., since 1923.

Everest, C. A., A. M. '16, U. of Mich.; Prin. Union H. S., Grand Rapids, Mich., since 1921.

Everett, G. E., B. S. '17, A. M. '19, George Peabody Col.; Supt. of Sch., P. O. Box 3, Lakeland, Fla., since 1921.

Ewart, Joseph A., A. B. '93, Boston Univ.; Ed. M. '21, Harvard Univ.; Supt .of Sch., Milton, Mass., since 1920.

Fair, A. R., Dist. Supt. of Sch., Pine Grove, W. Va.

Fairchild, Milton, B. A. '90, Oberlin Col.; '93 Andover Theo. Sem.; Independ. Stud. Character Ed since 1896; Chmn. Character Ed. Inst., 3770 McKinley St., N. W., Washington, D. C., since 1922.

Fairchild, R. W., Supt. of Sch., Elgin, Ill.

Fairchild, W. W., A. B. '13, Syracuse; Supt. of Sch., City Hall, Rutland, Vt., since 1921.

Fales, Lewis A., A. B. '98, Harvard; Supt. of Sch., Sanford St., Attleboro, Mass., since 1905.

Falk, H. A., Supt. of Sch., Sauk Center, Minn.

Fannon, E. W., Supt. of Sch., Centerville, Iowa.

Farmer, Fred B., Supt. of Sch., Storm Lake, Iowa.

Farnsworth, B. K., B. S. '25, Utah Agr. Col.; Supt., Millard Co. Sch. Dist., Fillmore, Utah, since 1925.

Farrin, Leon M., A. B. '15 Harvard U.; Supt. of Sch., Hanover, Hanson, and Norwell, Mass., since 1924.

Farris, O. R., Supt. of Sch., Osborne, Kans.

Farthing, Birney D., Ph. B. '20, Ind. State Normal Sch.; Co. Supt. of Sch., 232 E. 2nd St., Rushville, Ind., since 1922.

Fast, L. W., A. B. '20, A. M. '24, U. of Mich.; Supt. of Sch., Mt. Clemens, Mich., since 1919.

Fausey, John R., A. B. '18, Syracuse U.; Supt. of Sch., 169 Park Ave., West Springfield, Mass., since 1923.

Fausold, Samuel, A. B. '10, Gettysburg Col.; Supt. of Sch., Jr. High Sch. Bldg., Ambridge, Pa., since 1922.

Faust, Hugh G., A. B. '06, Carson-Newman Col.; Supt. of Sch., Shawnee, Okla., since 1914.

Feiock, Ed. C., Co. Supt. of Sch., Woodsfield, Ohio, since 1916.

Fell, E. E., Supt. of Sch., Holland, Mich.

Fellows, Ernest W., A. B. '94, Grinnell Col.; A. M. '11, Univ. of Ia.; A. M. '17, Tchrs. Col., Columbia Univ.; Supt. of Sch., 7 Beacon St., Gloucester, Mass., since 1921.

Felmley, David, A. B. '81, U. of Mich.; LL. D. '07, Univ. of Ill.; L. H. D. '08, Blackburn Col.; Pres. Ill. St. Norm. Univ., 207 North School St., Normal, Ill., since 1900.

Fenner, John K., A. B. '98, Brown Univ.; Supt. of Sch., 147 Woodbine St., Cranston, R. I., since 1917.

Ferguson, Arthur W., B. S. '12, Univ. of Pa.; A. M. '20, Lafayette Col.; Ph. D. '24, Univ. of Pa.; Supt. of Sch., Swarthmore, Pa., since 1923.

Ferguson, Mrs. Cora, Co. Supt. of Sch., Box 54, Groesbeck, Tex., since 1920.

Fetterly, Clarence A., A. B. '97, A. M. '00, Hamilton; Supv. Prin., Rutherford, N. J., since 1911.

Fewell, J. R., Supt. of Sch., Charleston, Miss.

Fidler, Wm. L., Jr., Supt. of Sch., 185 Carlyle Rd., Audubon, N. J.

Fillers, Herbert D., S. B. '16, Univ. of Chicago; Supt. of Sch., Box 95, Corsicana, Tex., since 1921.

Finegan, Thomas E., M. A. '94, Hamilton Col.; Pd. D. '09, N. Y. State Col. for Tchrs.; LL. D. '12, Colgate Univ.; LL. D. '17, Hamilton Col.; LL. D. '18, Univ. of Maine; LL. D. '21, Temple Univ.; Litt. D. '20, Univ. of Pa.; LL. D. '21, Dartmouth Col.; L. H. D. '22, Susquehanna Univ.; 613 N. Front St., Harrisburg, Pa.

Firman, Sidney G., B. S. '04, Pd. M. '05, N. Y. Univ.; Supt. of Sch., Glen Ridge, N. J., since 1910.

Fisher, Annie, B. S. '04, Wesleyan Univ.; Dist. Supt. of Sch., Henry Barnard Sch., Hartford, Conn., since 1923.

Fisher, C. Edward, A. B. '98, St. Lawrence; A. M. '12, Brown; Supt. of Sch., 39 Oak St., Braintree, Mass., since 1921.

Fisher, E. C., Supt. of Sch.. Peoria, Ill.

Fisher, Henry B., A. B. '96, N. W. Univ.; Supt. of Sch., Streator, Ill., since 1914.

Fisher, J. M., A. B. '13, Ursinus Col.; A. M. '19, Univ. of Pa.; Supt. of Sch., Ambler, Pa., since 1913.

Fisher, T. A., Diploma and Permanent Certif. '11, S. W. Texas State Tchrs. Col.; B. A. '15, Univ. of Tex.; Supt. of Sch., Box 548, Cameron, Tex., since 1923.

Fishpaugh, Clara B., A. M., W. Va. Wesleyan Col.; Prof. of Ed., W. Va. Wesleyan Col., Buckhannon, W. Va.

Fitzgerald, M. E., Supt. of Sch., City Hall, Cambridge, Mass.

Fitzgerald, R. G., A. B. '15, Univ. of N. C.; Co. Supt. of Sch., Box 18, Greenville, N. C.

Flanders, J. K., A. B. '04, Bates Col.; A. M. '17, Stanford Univ.; Ph. D. '25, Columbia Univ.; Head, Dept. of Ed., Dir. of Practice Teaching, State Normal Sch., Oswego, N. Y., since 1925.

Fleming, C. I., A. B. '15, B. S. in Ed. '15, Univ. of Mo.; Asst. in Research, 3655 Humphrey St., St. Louis, Mo., since 1924.

Fleming, Joseph Holt, A. B. '17, Elon Col.; Supt. of Sch., H. S. Bldg., Reidsville, N. C., since 1925.

Fleming, S. E., Asst. Supt. of Sch., 845 Central Bldg., Seattle, Wash.

Fleming, W. Y., Co. Supt. of Ed., Opelika, Ala.

Fletcher, Milton J., A. B. '88, Syracuse U.; Supt. of Sch., 509 E. 5th St., Jamestown, N. Y., since 1919.

Flickinger, C. A., County Supt. of Sch., Court House, Akron, O.

Flower, O. P., Supt. of Sch., Dubuque, Iowa.

Foberg, J. A., B. S. '99, U. of Ill.; Dir. of Math. and Sc., State Dept. of Pub. Inst., Harrisburg, Pa., since 1921.

Fogle, Oscar M., A. B. '02, Roanoke Col.; Co. Supt. of Sch., Easton, Md., since 1921.

Fontaine, E. Clarke, A. B. '01, M. A. '11, St. Johns Col.; M. A. '25, Tchr. Col. Columbia Univ.; St. Supvr. of H. S., 2014 Lexington Bldg., Baltimore, Md., since 1921.

Foote, John M., M. A. '23, George Peabody Col. for Tchrs.; State Supr. Elem. and Rur. Sch., Reymond Bldg., Baton Rouge, La., since 1914.

Ford, Charles F., Supt. of Sch., 225 4th St., Edwardsville, Ill.

Ford, George M., A. B. '92, LL. B. '96, W. Va. Univ.; State Supt. Sch., Capitol Bldg., Charleston, W. Va., since 1921.

Foreman, J. W., Supt. of Sch., Goshen, Ind.

Foster, Arthur J., A. B. '18, A. M. '20, Colo. State Tchr. Col.; Supt. of Sch., 150 First St., Brighton, Colo., since 1924.

Foster, C. R., B. A. '11, M. A. '14, Univ. of Pittsburgh; Assoc. Supt. of Sch., 729 Fulton Bldg., Pittsburgh, Pa., since 1923.

Foster, Charles Smalley, A. B. '05, A. M. '06, Antioch Col.; A. M. '11, Univ. of Mich.; Asst. Co. Supt. of Sch., Casstown, O., since 1923.

Foster, H. W., A. B. '77, Cornell Univ.; Supt. of Sch., 205 Garfield Place, South Orange, N. J., since 1900.

Foust, J. L., Ph. B. '17, Univ. of Chicago; Supt. of Sch., 1230 Locust St., Owensboro, Ky., since 1921.

Fowler, A. B., Supt. of Sch., First Natl. Bank Bldg., Ogden, Utah.

Fowler, Wade C., B. S. '21, State Tchrs, Col.; Supt. of Sch., 113 Hawthorne Pl., Hiawatha, Kans., since 1923.

Fowlkes, John Guy, Ph. D. Columbia Univ.; Assoc. Prof. of Ed., 108 Bascom Hall, U. W., Madison, Wis., since 1924.

Fox, E. E., B. S. '22, George Peabody Col.; Supt. of Sch., Pontotoc, Miss., since 1922.

Fox, George, B. S. '23, St. Johns Col.; Supt. of Sch., 86 Market St., Annapolis, Md., since 1916.

Fox, John H., A. B. '17, Dickinson; Tchrs. Col., Box 136, Morris Plains, N. J.

Frampton, S. A., B. S. '09, O. N. U.; A. B. '20, Wittenberg; Supt. of Sch., H. S. Bldg., Bellefontaine, O., since 1923.

Frankenfield, Clyde S., Ph. B. '17, Muhlenberg Col.; M. A. '21, Columbia Univ.; Supt. of Sch., 309 E. 19th St., Northampton, Pa., since 1922.

Frazee, George B. Jr., B. M. E. '02, M. A. '08, Univ. of Ky.; Art Diploma '08, Yale Univ.; Prin. Voc. and Tech. High Sch., 129 Bostwich, Grand Rapids, Mich., since 1919.

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Freeman, Eliot N., Supt. of Sch., Wheatridge, Colo.

Freeman, Frank N., B. A. '04, Wesleyan Univ.; M. A. '06, Ph. D. '08, Yale Univ.; Prof. in Dept. of Ed., Univ. of Chicago, Chicago, Ill., since 1909.

Freeman, H. S., B. A. '19, Morningside Col.; Supt. of Sch., McLaughlin, S. Dak., since 1922.

French, J. W., A. B. '12, B. S. '14, Univ. of Kans.; A. M. '22, Tchrs. Col., Columbia Univ.; Prin., Lincoln H. S., Lincoln, Nebr., since 1925.

French, W. C., A. B. '07, Univ. of Okla.; M. A. '24, Univ. of Chicago; Supt. of Sch., Drumright, Okla., since 1916.

Frits, F. N., A. M. '16, Columbia; Supt. of Sch., Clairton, Pa., since 1922.

Fritz, F. Herman, A. B. '09, A. M. '12, Bucknell Univ.; Supt. of Sch., 46 Manhattan St., Ashley, Pa., since 1925.

Frizzell, Bonner, A. B. '09, Tex. Christian Univ.; B. S. '11, Columbia Univ.; Supt. of Sch., P. O. Drawer 579, Palestine, Tex., since 1919.

Frohardt, L. P., Supt. of Sch., 2223 D St., Granite City, Ill.

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Fuehrer, William L., B. E. '10, Schuylkill; LL. B. '16, Hamilton; Supt. of Sch., 417 Elm St., Boyne City, Mich., since 1922.

Fuller, Edward H., A. B. '12, A. M. '16, Bates Col.; Supt. of Sch., Darien, Conn., since 1923.

Fullerton, Charles Hayward, B. Ph. '98, M. A. '11, Ohio State Univ.; Asst. Supt. of Sch., 88 18th Ave., Columbus, O., since 1916.

Fulp, J. D., A. B. '06, Presbyterian Col. of S. C.; M. A. '25, Univ. of S. C.; State H. S. Supvr., Columbia, S. C., since 1923.

Fuqua, F. Y.., LL. D. '09, Peabody; Co. Supt. of Sch., Box 36, Dresden, Tenn., since 1915.

Furry, W. D., A. B. '00, M. A. '04, Notre Dame Univ.; Ph. D. '07, Johns Hopkins Univ.; Pres., Shorter Col., Rome, Ga., since 1925.

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Gage, Snyder, J., A. B. '99, Union Col.; Pd. B. '01, Albany Normal Col.; Supt. of Sch., 98 Grand St., Newburgh, N. Y., since 1921.

Gallagher, Oscar C., A. B. '96, A. M. '06, Harvard; Supt. of Sch., Town Hall. Brookline, Mass., since 1919.

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Gamble, William D., A. B. '96, A. M. '01, Westminster; Supt. of Sch., 198 Cedar Ave., Sharon, Pa., since 1913.

Gamertsfelder, C. C., A. B. '09, Northwestern Col.; Supt. of Sch., Decorah, Iowa, since 1921.

Gammage, Grady, B. A. '16, Univ. of Arizona; Supt. of Sch., Winslow, Ariz., since 1921.

Ganders, Harry S., B. Ed. '20, A. M. '22, Univ. of Wash.; Prof. of Ed. Admin., State Tchrs. Col., 4 Lafayette Apts., Greeley, Colo., since 1924.

Gannon, John F., B. A. '96, M. A. '02, LL. D. '23, Holy Cross Col.; B. L. '12, Northeastern Univ.; Supt. of Sch., Room 10, City Hall, Pittsfield, Mass., since 1920.

Garcelon, A. B., Ph. B. '02, J. D. '04, Univ. of Chicago; Supt. of Sch., Room 106 H. S. Bldg., Bangor, Maine, since 1922.

Gardner, C. A., M. A. '15, Texas Univ.; Prin., N. Ft. Worth H. S., Park and Blvd., Ft. Worth, Tex., since 1922.

Gardner, Fred C., B. S. '23, Univ. of Kans.; Life Diploma '12, Kans. State Tchrs. Col.; Abilene, Kans.

Gardner, George R., A. B. '01, Bowdoin Col.; A. M. '13, Columbia Univ.; Supt. of Sch., City Bldg., Auburn, Maine, since 1924.

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Garrison, Levi T., Regional Supervisor State Bd. of Ed., Normal Sch., Willimantic, Conn., since 1910.

Garver, Harlie, B. Sc. '14, Hiram Col.; Prin., H. S., 745 N. Columbia St., Union City, Ind., since 1920.

Garver, V. A., Supt. of Sch., 24 N. Third St., South, Rittman, Ohio, since 1925.

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Gaskins, Avery E., A. B. '17, Lebanon Univ.; A. B. '23, Salem Col.; Supt. of Falling Springs Sch., Renick, W. Va., since 1922.

Gates, C. Ray, B. E. '11, Peru State Tchrs. Col.; B. A. '16, Univ. of Nebr.; M. A. '20, Columbia Univ.; Supt. of Sch., 404 N. Elm St., Grand Island, Nebr., since 1922.

Gatton, Harper, A. B. '12, Georgetown Col.; Supt. of Sch., Madisonville, Ky., since 1914.

Gay, J. C., M. A. '90, Meridian Bus. Col.; Co. Supt. of Sch., Box 3, Hattiesburg, Miss., since 1918.

Geary, Grace, State Normal Sch., Superior, Wis.

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Gehman, A. L., A. B. '09, Franklin and Marshall Col.; A. M. '18, Tchr. Col., Columbia Univ.; Supt. of Sch., Erdenheim, Pa., since 1922.

Geiger, Franklin Paul, B. C. S. '94, A. B. '94, A. M. '12, Mt. Union Col.; D. Pd. '18, Ohio Univ.; Supt. of Sch., 412 N. 6th St., New Philadelphia, Ohio, since 1925.

Geiger, J. D., A. B. '22, Bluffton Col.; Prin. Mt. Vernon, O. H, S., 307 N. Main St., Mt. Vernon, Ohio, since 1924.

Geiger, Wm. F., A. B. '92, A. M. '22, Dartmouth Col.; Supt. of Sch., 608 No. J. St., Tacoma, Wash., since 1912.

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Gentry, S. W., B. S. '18, M. A. '20, Peabody Col.; Supt. of Sch., Princeton, W. Va., since 1924.

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Gilbert, Frank B., A. B. '89, LL. D. '20, Hamilton Col.; Dep. Com. of Ed., State of New York, State Ed. Bldg., Albany, N. Y., since 1919.

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Gilmore, W. Lee, M. E. '04, State Normal Sch., Slippery Rock, Pa.; A. B. '05, Central Univ.; B. S. '18, Univ. of Pittsburgh; Supt. of Sch., 726 9th St., Oakmont, Pa., since 1916.

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Glass, Edward C., Supt. of Sch., Lynchburg, Va., since 1879.

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Haefner, R., M. A. '17, Univ. of Minn.; Instr. in Psychology, E. Ill. State Tchrs. Col., Charleston, Ill., since 1924.

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Hale, M. J., A. B. '17, A. M. '18, Drury Col ; Supt. of Sch., McAlester, Okla., since 1924.

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Hall, J. O., A. B. '98, Univ. of Kans.; Supt. of Sch., 110 E. 12th St., Pawhuska, Okla., since 1922.

Hall, John W., B. S. '01, M. A. '02, T. C. Columbia Univ.; Dean of Sch. of Ed., Univ. of Nevada, Reno, Nevada, since 1920.

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Hendrix, H. E., A. B. '01, Ph. B. '01, N. W. Col.; LL. B. '08, Erie Col. of Law; A. M. '23, Stanford Univ.; A. M. '03, N. W. Col.; Supt. of Sch., Mesa, Ariz., since 1920.

Hendry, Frank, A. B. '09, A. M. '14, Univ. of Mich.; Supt. of Sch., 153 Hendrie Blvd., Royal Oak, Mich., since 1915.

Henely, Eugene, B. S. '90, Ames; Supt. of Sch., H. S., Grinnell, Iowa, since 1905.

Henkel, A. J., Supt. of Sch., Portage, Wis.

Henmon, V. A. C., A. B. '95, A. M. '98, Bethany Col.; Ph. D. '05, Columbia Univ.; Dir. Sch. of Ed., Univ. of Wis., Madison, Wis., since 1916.

Henry, David W., B. A. '11, Norm. Col.; M. A. '16, T. C. Columbia; Dean, Col. of Ed., Univ. of Toledo, Admin. Bldg., 11th and Ill. Sts., Toledo, Ohio, since 1919.

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Herring, John H., A. M. '09, Ohio Univ.; Supt. of Sch., 25 Perry St., Lambertville, N. J., since 1917.

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Heston, F. M., A. B. '08, Ohio State Univ.; M. A. '25, Columbia Univ.; Prof. of Ed., Asbury Col. Wilmore, Ky., since 1925.

Heusner, W. S., A. B. '94, Ohio Wesleyan Univ.; Supt. of Sch., Salina, Kans., since 1913.

Hick, Hugh R., B. S. '03, Denison Univ.; M. A. '24, T. C., Columbia Univ.; Supt. of Sch., 808 N. Twelfth St., Cambridge, Ohio.

Hickey, D. Edward, B. A. in Ed. '10, M. A. '12, Univ. of Minn.; Supt. of Sch., Hillcrest Apts., South St. Paul, Minn., since 1911.

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Higley, C. A., A. B. '05, Marietta Col.; Supt. of Sch., H. S. Bldg., New Lexington, Ohio, since 1924.

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Hines, Linnaeus N., A. B. '94, M. A. '08, Ind. Univ., Pres. Ind. State Normal Sch., Terre Haute, Ind., since 1921.

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Hobson, Clifton H., Ph. B. '04, Brown Univ.; Supt. of Sch., Palmer, Mass., since 1911.

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Holley, J. W., A. B. '00, A. M., S. T. B., '02, D. D. '06, LL. D. '16, Lincoln, Univ.; Pres. Ga. Normal and Agr. Col., Blue Springs Rd., Albany, Ga., since 1903.

Holliday, Lewis P., A. B. '10, Hillsdale Col.; M. A. '17, Columbia Univ.; Supt. of Sch., Crystal Falls, Mich., since 1923.

Hollis, E. V., B. S., M. S., Miss. A. and M. Col.; A. M., T. C., Columbia Univ.; Pres. Ga. Norm. Sch., Statesboro, Ga., since 1920.

Holloway, H. V., A. B. '95, A. M. '98, Wash. Col., Md.; Ph. D. '14, Univ. of Pa.; State Supt. of Pub. Ins., Dover, Del., since 1921.

Holmes, Eva, Co. Supt. of Sch., Hall of Records, Napa, Calif., since 1923.

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Holmes, J. R., A. B. '15, Hendrix Col.; A. M. '25, Tchrs. Col., Columbia Univ.; Supt. of Sch., Sapulpa, Okla., since 1924.

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Hough, Harry E., Commissioner of Sch., Paw Paw, Mich., since 1923.

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Howard, Daniel, A. M. '98, Brown Univ,; Supt. of Sch., Windsor, Conn., since 1910.

Howard, George, A. B. '12, Davidson Col.; A. M. '22, Ph. D. '24, Columbia Univ.; Co. Supt. of Sch., Salisbury, N. C., since 1925.

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Howe, Sherman L., B. A. '93, M. A. '95, Colgate; Supt. of Sch., 163 Wall St., Corning, N. Y., since 1922.

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Howell, Clarence E., B. S. '17, Jas. Millikin Univ.; A. M. '23, T. C., Columbia Univ.; Dir. of Jr. Sch., Board of Ed., Trenton, N. J., since 1926.

Howell, D. A., Supt. of Sch., Linden, N. J.

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Hunt, Charles W., A. B. '04, Brown Univ.; A. M. '10, Ph. D. '22, Columbia Univ.; Dean, Cleveland Sch. of Ed., Stearns Rd. and E. 109th St., Cleveland, Ohio, since 1924.

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Jeffords, H. Morton, A. B. '14, Syracuse Univ.; Supt. of Sch., Lyman Hall H. S., Wallingford, Conn., since 1925.

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Jones, Arthur J., A. B. '93, Grinnell Col.; Ph. D. '07, Columbia Univ.; Prof. of Secondary Ed., Sch. of Ed., Univ. of Pa., Philadelphia, Pa., since 1915.

Jones, Burr F., A. B. '07, Colby Col.; A. M. '12, Harvard Univ.; State Supvr. Elementary Ed., 212 State House, Boston, Mass., since 1917.

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Jones, Evan E., A. B. '16, Hamilton; M. A. '25, Tchrs. Col., Columbia Univ.; Supt. of Sch., Mechanicville, N. Y., since 1922.

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Jones, T. J., B. L. '96, Univ. of Wis.; Supt. of Sch., 621 71st Ave., West Allis, Wis., since 1907.

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Judd, R. D., A. B. '16, Georgetown Col.; A. M. '24, Univ. of Chicago; Supt. of Sch., Lancaster, Ky., since 1924.

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Kealey, Daniel S., A. B. '14, LL. B. '17, Fordham; '18, Stevens Marine Eng. Sch.; Supt. of Sch., Hoboken, N. J., since 1922.

Keating, John Francis, A. B. '92, Ohio Wesleyan Univ.; M. A. '06, D. L. '14, Univ. of Denver; Supt. of Sch., Pueblo, Colo., since 1896.

Keator, Maud, B. A. '14, M. A. '17, Tchrs. Col., Columbia Univ.; Dir. Special Ed. and Stand., State Bd. of Ed., Capitol, Hartford, Conn., since 1922.

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Keller, William K., A. B. '21, A. M. '21, Wash. State Col.; Supt. of Sch., Juneau, Alaska, since 1922.

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Kelly, Daniel James, B. S. '04, Pd. D. '19, Syracuse; Supt. of Sch., Binghamton, N. Y., since 1912.

Kemp, W. W., Ph. D. '12, Tchrs. Col., Columbia; Dean Sch., of Ed., Univ. of Calif., 206 Haviland Hall, U. C., Berkeley, Calif., since 1923.

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Kerr, R. V., A. B. '14, Univ. of Tenn.; Supt. of Bossier Parish Schools, Benton, La., since 1921.

Ketler, Frank C., A. B. '11, Grove City Col.; Super. Prin., Midland, Pa., since 1921.

Keyes, Charles H., A. B. '08, Amherst Col.; Ed. M. '24, R. I. Col. of Ed.; Supt. of Sch., Box 61, Barrington, R. I., since 1919..

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Kies, Harry D., M. A. '20, State Univ. of Ia.; Ph. B. Drake Univ.; Supt. of Sch., Mankato, Minn., since 1923.

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Kimball, Elwell F., B. S. '98, Boston Tech.; Supt. of Sch. of Thompson, North Grosvenordale, Conn., since 1920.

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Kirk, John R., LL. D. '07, Mo. Wesleyan Col, Park Col.; Pres. State Tchrs. Col., Kirksville, Mo., 1899-1925; Pres. Emeritus 1925-.

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Krebs, Henry C., B. S. '89, State Normal Sch., Kutztown, Pa.; A. M. '23, Rutgers Col.; Asso. Prof. of Ed., Col. of William and Mary, Williamsburg, Va.

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Kuhn, Florence C., Co. Supt. of Sch., Charleston, W. Va.

Kuntz, Elmer E., A. B. '97, A. M. '98, Dickinson Col.; Supvg. Prin., East Stroudsburg, Pa., since 1922.

Kurtz, A. R., A. M. '22, Franklin and Marshall Col.; Supvg. Prin., Tchrs. Train. Sch., Shaw Ave., McKeesport, Pa., since 1924.

Lake, Charles H., B. A. '09, M. A. '10, Ohio State Univ.; First Asst. Supt. of Sch., Bd. of Ed. Bldg., Cleveland, Ohio, since 1920.

Lake, Sebastian, B. S. '15, Ia. State Col.; Supt. of Sch., Sac City, Ia., since 1917.

Lamb, T. D., Supt. of Sch., Hundred, W. Va.

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Lancaster, J. W., B. Ped. '06, M. S. '13, Univ. of Ky.; Supt. of Sch., Georgetown, Ky., since 1922.

Land, Fort E., A. B. '01, Emory Univ.; State Supt. of Sch., Room 103, State Capitol, Atlanta, Ga., since 1925.

Lane, Fletcher, A. B. '05, A. M. '23, Univ. of Nebr.; LL. B. '10, Univ. of Tex.; Prof. of Ed., John Tarleton Agr. Col., Stephenville, Tex., since 1920.

Lane, R. E., B. S. '23, M. A. C.; Supt. of Sch., 523 Park Lane, East Lansing, Mich., since 1923.

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Loomis, G. F., A. B. '96, A. M. '01, Beloit Col.; Supt. of Sch., 166 Sheridan Road, Kenosha, Wis., since 1921.

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Lumbard, John W., B. A. '96, Amherst Col.; Supt. of Sch., 8 Lenox Ave., White Plains, N. Y., since 1912.

Lund, John, A. B. '13, Clark U.; M. A. '14, Columbia Univ.; Supt. of Sch., Norwalk, Conn., since 1925.

Lundgren, Leonard, B. S. C. E. '04, Armour Inst. of Tech.; M. S. '08, Univ. of Ia.; Ph. D. '23, Columbia Univ.; Dir. of Adult and Voc. Ed., 20 Jones St., San Francisco, Calif., since 1923.

Lunn, J. E., Supt. of Sch., Nashwauk, Minn.

Lutes, O. S., M. A., State Univ. of Ia.; Research Asst. State Univ. of Ia., 510 Grant St., Iowa City, Ia., since 1924.

Lyman, Warren B., Ph. B. '06, Yale; Supt. of Union Sch., 36 Hayden Rowe, Hopkinton, Mass., since 1917.

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Lyon, Gilbert R., B. A. '17, Hamilton Col.; Supvg. Prin., East Hampton, N. Y., since 1922.

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McAndrew, William, A. B. '86, Univ. of Mich.; Pres. Dept. of Superintendence, 1924, Supt. of Sch., 1142 S. Mich. Ave., Chicago, Ill., since 1924.

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McCartney, Livingstone, Supt. of Sch., Hannibal, Mo., since 1909.

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McClelland, C. R., A. B. '15, Grove City Col.; A. M. '24, Univ. of Pittsburgh, Supt. of Sch., 208 McKee Ave., Monessen, Pa., since 1924.

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Mason, E. G., Supt. of Sch., Rittman, Ohio.

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Melcher, Wm., A. B. '11, A. M. '12, Drury Col.; A. M. '16, Harvard; Supt. of Sch., 439 S. Sixth, Montrose, Colo., since 1918.

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Peebles, J. Fernald, A. B. '16, Brown Univ.; Supt. of Sch., Marion, Mass., since 1922.

Peel, J. C., A. B. '15, Elon; M. A. '20, N. C. Univ.; Supt. of Sch., Sarasota, Fla.

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Peirce, W. M., Ph. B. '99, Ill. Wesleyan Univ.; Ph. D. '03, Grove City Col.; Supt. of Sch., Ridgway, Pa., since 1897.

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Perkins, Charles N., A. B. '93, A. M. '96, Colby; Supt. of Sch., 352 Nahant Rd., Nahant, Mass., since 1925.

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Perrin, H. Ambrose, Diploma '03, Ill. S. N. Univ.; Ph. B. '12, M. A. '22, Univ. of Chicago; M. A. '16, James Milliken Univ.; Supt. of Sch., Joliet, Ill., since 1922.

Perry, Arthur C., Jr., Dist. Supt. of Sch., New York, N. Y., 226 Halsey St., Brooklyn, N. Y.

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Perry, William H., A. B. '93, A. M. '96, Syracuse Univ.; Ph. B. '96, State Normal Col., Albany, N. Y.; Pd. M. '08, Ph. D. '09, N. Y. Univ.; Supt. of Sch., City Hall, Leominster, Mass., since 1914.

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Peterson, Elmer T., Col. of Ed., State Univ. of Ia., Iowa City, Ia.

Peterson, Henry, Sch. of Ed., U. A. C., Logan, Utah.

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Pfaff, Caroline S., B. A. '16, M. A. '18, Tulane of La.; Dist. Supt., 4868 Constance, New Orleans, La., since 1920.

Phelan, Warren W., A. B. '94, A. M. '96, Columbia Univ.; Ph. D. '03, G. W. Univ.; LL. D. '21, Okla. Bap. Univ.; Dean Sch. of Ed., Univ. of Okla., Norman, Okla., since 1912.

Phelps, C. L., A. B. '01, A. M. '03, Dartmouth; Supt. of Sch., Ishpeming, Mich., since 1915.

Philhower, Charles Alpaugh, B. S. '09, A. M. '12, Dickinson; A. M. '15, Columbia; Supt. of Sch., 303 Mountain Ave., Westfield, N. J., since 1917.

Phillips, Claude A., A. M., Univ. of Chicago; Ph. D., Geo. Peabody Col.; Prof. of Ed., Dir. Elem. Sch., M. S. Univ., Columbia, Mo., since 1924.

Phillips, Clyde U., B. S. '18, Kans. State Tchrs. Col.; Supt. of Sch., 313 N. Mulberry, Eureka, Kans., since 1921.

Phillips, Guy B., A. B. '13, Univ. of N. C.; Supt. of Sch., P. O. Box 271, Salisbury, N. C., since 1924.

Phillips, J. J., B. S. '06, Ohio Wesleyan; Supt. of Sch., 611 E. 5th Ave., Lancaster, Ohio, since 1922.

Pickell, Frank G., A. B. '09, Ind. Univ.; A. M. '17, T. C., Columbia; Supt. of Sch., Bd. of Ed., Montclair, N. J., since 1923.

Pickens, Sidney, A. B. '14, Ark. Col.; Supt. of Sch., 710 Harrison St., Batesville, Ark., since 1909.

Pierce, B. L., A. B. '18, Oberlin Col.; Co. Supt. of Sch., Sandusky, Ohio, since 1923.

Pierce, Helen W., Asst. Supt. of Sch., Chamber of Commerce Bldg., Los Angeles, Calif.

Pierce, V. P., A. B. '93, Ypsilanti; Supt. of Sch., Yale, Mich.

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Plummer, Louis E., B. S. '09, B. C. S. '09, Ohio North. Univ.; Prin. Fullerton Union H. S. and Jr. Col., Fullerton, Calif., since 1918.

Pogue, George M., Co. Supt. of Sch., St. Clairsville, Ohio.

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Pope, Alvin E., B. A. '98, Univ. of Nebr.; M. A. '99, Gallaudet Col.; Supt. N. J. Sch. for the Deaf, Trenton, N. J., since 1917.

Pope, Delmer Neal, A. B. '03, Roanoke Col.; M. Acct. '08, Boulder Business; Supt. of Sch., 200 So. Lea, Roswell, N. Mex., since 1918.

Pore, O. E., A. B. '06, Col. of Wooster; A. M. '16, Tchrs. Col., Columbia Univ.; Supt. of Sch., Ravenna, Ohio, since 1925.

Porter, Frederick W., B. S. '14, Tufts; Supt. of Sch., P. O. Box No. 8, Stoneham, Mass., since 1921.

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Pottenger, Mary O., Elem. Supvr. Kndgtn. and Prim. Gr., Sch. Dept., City Hall, Springfield, Mass., since 1920.

Potter, Milton C., B. A. '95, Albion Col.; M. A. '05, Univ. of Chicago; Litt. D. '15, Univ. of Denver; Supt. of Sch., Sch. Admin. Bldg., Milwaukee, Wis., since 1914.

Potts, D. Walter, Supt. of Sch., 6th and St. Louis Aves., E. St. Louis, Ill.

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Powers, F. R., A. B. '13, Oberlin; A. M. '20, Columbia T. C.; Supt. of Sch., S. Main, Amherst, Ohio, since 1918.

Powers, R. E., B. A. '20, Univ. of Tenn.; Supt. of Sch., Box 17, Lexington, Tenn., since 1921.

Powers, Sue M., B. S. '20, Peabody Col.; Co. Supt. of Sch., Memphis, Tenn., since 1922.

Pratt, C H., A. B. '08, Bates; Supt. of Sch., Gray, Maine, since 1922.

Pratt, Orville C., Ph. B. '95, DePauw Univ.; Supt. of Sch., Admin. Bldg., Spokane, Wash., since 1916.

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Price, E. D., M. A. '20, Mo. Univ.; Supt. of Sch., Enid, Okla., since 1915.

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Prior, Charles F., Supt. of Sch., Town Hall, Fairhaven, Mass., since 1912.

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Pruitt, Edgar C., Co. Supt. of Sch., Court House, Springfield, Ill., since 1906.

Pruitt, Eugene Watts, B. A. '09, Wash. Col.; Co. Supt. of Sch., Princess Anne, Md., since 1922.

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Purdom, J. Leslie, A. B. '06, Centre Col.; A. M. '11, Ph. D. '18, Harvard; Prin. Harris Tchrs. Col., St. Louis, Mo., since 1922.

Pyle, Jay C., B. Lit. '94, Baylor Univ.; M. A. '22, Austin Col.; Supt. of Sch., Sherman, Tex., since 1907.

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Quinn, James Joseph, A. B. '12, Amherst; A. M. '14, Harvard; Supt. of Sch., Winchester, Mass., since 1923.

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Radcliffe, Paul Rodney, A. B. '09, Maryville; Supt. of Sch., Nutley, N. J., since 1920.

Radcliffe, Ralph, A. B. '21, Univ. of Pittsburgh; Supt. of Sch., Dormont, South Hills Branch, Pittsburgh, Pa., since 1920.

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Raffety, L. E., Supt. of Sch., Brooklyn, Ia.

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Rather, L. H., B. A. '14, Univ. of Tex.; Supt. of Sch., Box 302, Bonham, Tex., since 1921.

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Rawlins, Robert E., Supt .of Sch., Pierre, S. Dak.

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Reagle, Fred P., A. B. '01, M. A. '05, Muhlenberg Col.; Asst. Supt. of Sch., 22 Valley Road, Montclair, N. J., since 1919.

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Reed, Lula, A., B. S. '17, M. A. '24, T. C., Columbia Univ.; Supvr. Elem. Sch., Bd. of Ed., 114 W. Wesley, Jackson, Mich., since 1913.

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Rice, H. A., A. B. '20, W. Va. Univ.; Supt. of Sch., Box 8, Grafton, W. Va., since 1923.

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Richards, Charles W., L. I. '01, Peabody Col.; A. B. '03, Univ. of Nashville; Supt. of Sch., Box 537, Ardmore, Okla., since 1911.

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Richardson, J. W., B. S. '06, Iowa Wes.; M. A. '13, State Univ. of Ia.; Supt. of Sch., H. S. Bldg., Hibbing, Minn., since 1923.

Richardson, W. F., Diploma '17, State Tchr. Col., Wayne, Nebr.; Co. Supt. of Sch., Ponca, Nebr., since 1917.

Richardson, W. H., A. M. '04, Defiance, Col.; Supt. of Sch., 240 Chestnut St., Cuyahoga Falls, Ohio, since 1908.

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Richey, Joseph B., A. B. '89, Allegheny Col.; Ph. D., Waynesburg Col.; LL. D. '24, Grove City Col.; Supt. of Sch., 2008 Jenny Lind St., McKeesport, Pa., since 1902.

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Riggs, James G., A. B. '88, A. M. '91, Amherst; Ped. D. '12, State Col. for Tchrs., Albany; Prin. State Normal Sch., Oswego, N. Y., since 1913.

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Rittinger, John W., B. S. '94, Mich State Col.; State Sch. Inspector, State Dept. of Pub. Instr., Indianapolis, Ind., since 1925.

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Robbins, Fred W., Ph. B. '98, Pd. D. '15, Bucknell Univ.; Supt. of Sch., 1112 W. 4th St., Williamsport, Pa., since 1914.

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Roberts, Edward D., B. A. '99, M. A. '07, Univ. of Cincinnati; M. A. '08, Tchrs. Col., Columbia Univ.; Asst. Supt. of Sch., Denton Bldg., Cincinnati, Ohio, since 1912.

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Robinson, Albert, A. B. '93, Colby Col.; Supt. of Sch., Peabody, Mass., since 1903.

Robinson, Ernest W., Supt. of Sch., City Hall, Fitchburg, Mass., since 1917.

Robinson, Louis C., A. B. '05, Wash. Col., Chestertown, Md.; Co. Supt. of Sch., 208 Washington Ave., Chestertown, Md., since 1922.

Robinson, Ross N., A. B. '15, Carson-Newman Col.; A. B. '19, Univ. of Tenn.; A. M. '21, Columbia Univ.; Supt. of Sch., 515 Oak, Kingsport, Tenn., since 1924.

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Rosenberry, B. Frank, A. B. '13, M. A. '20, Gettysburg Col.; Supt. of Sch., Stephen S. Palmer Bldg., Palmerton, Pa., since 1920.

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Ruediger, William C., Ph. B. '99, Ph. M. '03, Univ. of Wis.; Ph. D. '07, Columbia Univ.; Prof. of Ed., since 1907 and Dean, Tchrs. Col., Geo. Wash. Univ., Washington, D. C., since 1912.

Rugg, Harold, B. S. '08, Dartmouth Col.; C. E. '09, Thayer Sch. of Eng.; Ph. D. '15, Univ. of Ill; Prof. of Ed., T. C., Columbia Univ.; New York, N. Y., since 1919.

Rugg, L. S., B. S. '19, A. M. '25, Geo. Peabody Col.; Prin. of Elem. Sch., W. Alexandria Grammar Sch., 2023 Polk St., Alexandria, La., since 1920.

Ruhl, Howard T., A. B. '07, St. John's Col.; A. M. '17, Columbia Univ.; Co. Supt. of Sch., Prince Frederick, Md., since 1921.

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Rule, James N., B. S. '98, M. S. '01, Wash. and Jeff.; Dept. Supt., State Dept. of Pub. Instr., Harrisburg, Pa., since 1922.

Rundle, John, B. S. '96, Normal Sch., Lebanon, Ohio; L. I. '98, Peabody Col.; Supt. of Sch., Grenada, Miss., since 1920.

Rundlett, Louis J., A. B. '81, A. M. '87, Dartmouth Col.; Supt. of Sch., Concord, N. H., since 1885.

Runyon, Charles, 246 Grant Ave., New Brunswick, N. J.

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Russell, Earle E., B. S. '19, Columbia Col.; Ed. M. '22, Harvard Univ.; Supt. of Sch., Simsbury, Conn., since 1924.

Russell, F. O., A. B. '15, Defiance Col.; M. A. '19, O. S. U.; Co. Supt. of Sch., Bryan, Ohio, since 1922.

Russell, Mrs. L. M., 9 Renner Apts., Chattanooga, Tenn.

Russell, Ralph D., Ph. D. '23, State Univ. of Iowa; Asst. Co. Supt. of Sch., Yreka, Calif., since 1924.

Russell, Walter Earle, A. B. '93, Wesleyan Univ.; Prin., State Normal Sch., Gorham, Maine, since 1905.

Russell, William F., A. B. '10, Cornell Univ.; Ph. D. '14, Columbia U.; Prof. of Ed., T. C., Columbia Univ.; 525 W. 120th St., New York, N. Y., since 1923.

Russum, Elizabeth, B. E. '09, S. W. Tchrs. Col., Springfield, Mo.; B. S. '22, Univ. of Idaho; State Supt. of Pub. Instr., State House, Boise, Idaho.

Rutherford, Kenneth L., A. B. '16, Hobart Col.; M. A. '24, T. C., Columbia Univ.; Supvg. Prin., Fayetteville, N. Y., since 1920.

Rutherford, W. R., A. M. '20, Leland-Stanford Univ.; Ed. Dir., Navy Dept., Room 3606, Navy Bldg., Washington, D. C., since 1924.

Ryan, Belle M., Asst. Supt. of Sch., Omaha, Nebr.

Ryan, Orson, Supt. of Sch., Logan, Utah.

Ryan, W. Carson, Jr., A. B. '07, Harvard; Ph. D. '18, G. W. Univ.; Prof. of Ed., Swarthmore Col.; Swarthmore, Pa., since 1921.

Saam, Theodore, B. S. '98, Lennox Col.; A. N. '03, Univ. of Iowa; Supt. of Sch., Council Bluffs, Iowa, since 1917.

Sachse, T. J., M. A. '23, T. C., Columbia; Supt. of Sch., Winsted, Conn., since 1923.

Safford, Adelbert L., Supt. of Sch., Reading, Mass.

St. Clair, Robert E., B. Pd. '09, Kirksville State Norm.; Ph. B. '16, Univ. of Chicago; M. A. '24, T. C., Columbia Univ.; Prin. Benton Elemn. Sch., 1344 Laurel St., St. Louis, Mo., since 1909.

St. John, Claude E., Diploma '03, Kans. State Normal Col.; Supt. of Sch., Arkansas City, Kans., since 1918.

Salisbury, Ethel I., M. A. '17, T. C., Columbia Univ.; Asso. Prof. of Elemn. Ed., Dir. Course of Study, Univ. of Calif., 822 Security Bldg., Los Angeles, Calif., since 1919.

Salley, Nathaniel M., 193 W. Jefferson St., Tallahassee, Fla.

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Sanberg, George H., B. A. '19, Univ. of N. Dak.; Supt. of Sch., Rochester, Minn., since 1925.

Sanborn, Channing T., Supt. of Sch., 109 Main St., Tilton, N. H.

Sanborn, Clarence C., A. B. '08, Leland Stanford; Supt. of Sch., 4 Orange St., Farmington, N. H., since 1921.

Sanborn, Henry C., A. B. '95, Dartmouth Col; Supt. of Sch., Punchard H. S., Andover, Mass., since 1916.

Sanford, O. G., Supt. of Sch., Trenton, Mo.

Santee, A. M., Prin., Central H. S., Duluth, Minn.

Saunders, C. E., Supt. of Sch., Aberdeen, Miss.

Saunders, Joseph H., A. B., William and Mary Col.; A. M. '24, Univ. of Chicago; Supt. of Sch., Box 172, Newport News, Va, since 1921.

Saunders, Robert L., Supt. of Sch., 1154 Clinton Ave., Irvington, N. J.

Sauvain, Nelson, Supt. of Sch., Devils Lake, N. Dak.

Savage, Snowden B., A. B. '03, Young Harris Col., Young Harris, Ga.; Co. Supt. of Sch., Washington, Ga., since 1921.

Savitz, J. J., Prin. Normal Sch., Glassboro, N. J.

Sawdon, Jonas, A. B. '18, Univ. of Mich.; Supt. of Sch., Grand Ledge, Mich., since 1910.

Sawyer, P. U., Supt. of Sch., Roosevelt Ave., Redford, Mich.

Saxvik, H. O., B. A. '05, Luther Col.; Supt. of Sch., 622 8th St., Bismarck, N. D., since 1922.

Scales, Nan B., Supt. of Co. Sch., Steamboat Springs, Colo., since 1923.

Scarborough, William Acree, A. B. '19, Randolph Macon Col.; M. A. '21, Univ. of Pa.; Co. Supt. of Sch., Dinwiddie, Va., since 1923.

Schabert, Joseph A., M. A. '19, Univ. of Minn.; Ph. D. '21, Univ. of Louvain, Belgium; Dean, Sch. of Ed., Col. of St. Thomas, St. Paul, Minn., since 1922.

Schafer, J. J., A. B. '20, M. A. '24, Univ. of Mich.; Supt. of Sch., 510 McDonald St., Midland, Mich., since 1919.

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Schlagle, F. L., Asst. Supt. of Sch., Library Bldg., Kansas City, Kans.

Schlaifer, Osher, A. B. '03, Univ. of Nebr.; Supt. of Sch., Dundee, Ill., since 1916.

Schmidt, H. W., State Dept. of Pub. Inst., Madison, Wis.

Schmitt, Irvin H., B. A. '16, Coe Col.; Supt. of Sch., Milford, Ia., since 1922.

Schrader, Carl L., State Dept. of Ed., Boston, Mass.

Schreiber, Paul D., B. S. '12, Bucknell Univ.; Supt. of Sch., H. S. Bldg., Port Washington, N. Y., since 1920.

Schroder, R. D., Supt. of Sch., Maggett, S. C.

Schroeder, Mrs. C. F., Ph. B. '11, Colo. Tchrs. Col.; Co. Supt. of Sch., Julesburg, Colo., since 1920.

Schultz, Arthur Francis, Ph. B. '94, Albion Col.; A. B. '06, Univ. of Mich.; Prin. Ruddiman Sch., Dearborn, R. 4, Detroit, Mich., since 1925.

Schumpert, Bailey T., A. B. '02, Peabody Col.; Supt. of Sch., West Point, Miss., since 1918.

Schwartz, Harwood Muzzy, B. S. '07, M. S. '10, Hamilton Col.; 31 Fountain St., Clinton, N. Y.

Schwegler, Raymond A., A. B. '99, Brown; M. A. '06, Ottawa; Act. Dean Sch. of Ed., Univ. of Kans., Lawrence, Kans., since 1923.

Schweickart, E. F., Supt. of Sch., Fremont, Ohio.

Schweickhard, Philip, B. S. '17, Chicago; Supt. of Sch., Biwabik, Minn., since 1921.

Schwerin, Emma, Co. Supt. of Sch., Hartington, Nebr., since 1915.

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Scott, C. J., Supt. of Sch., 19 Winans St., East Orange, N. J.

Scott, Francis M., Diploma, '93, Central Normal Col., Danville, Ind.; Co. Supt. of Sch., 209 Fairview Ave., Collinsville, Ill., since 1923.

Scott, Frank A., A. B. '03, Harvard; A. M. '13, Dartmouth; Ed. M. '23, Harvard; Supt. of Sch., 31 Blake St., Belmont 78, Mass., since 1921.

Scott, R. Ray, M. A. '16, Columbia; Hd. Dept. of Ed., W. Va. Wes., 50 Kanawha St., Buckhannon, W. Va., since 1920.

Scott, Zenos E., B. S. '10, Moorehill Col.; A. M. '13, T. C., Columbia; Supt. of Sch., Springfield, Mass., since 1923.

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Seale, E. C., Co. Supt. of Sch., Elyria, Ohio.

Sealey, R. M., A. B. '11, Univ. of Fla.; A. M. '25, George Peabody Col. for Tchrs.; State Supv. of H. S., Tallahassee, Fla., since 1923.

Sealock, W. E., A. B. '05, Ohio State Univ.; Ph. D. '16, Columbia Univ.; Dean Col. of Ed., Univ. of Nebr., Sta. A, Box 1372, Lincoln, Nebr., since 1922.

Seekell, Grace Edith, B. A. '22, Univ. of Mich.; Supvr. Course of Study for Tr. Sch., West. Normal Tr. Sch., Kalamazoo, Mich., since 1922.

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Seerley, Homer Horatio, B. Ph. '73, B. D. '75, M. A. '76, LL. D. '01, State Univ. of Iowa; LL. D. '98, Penn. Col., Oskaloosa, Iowa; Pres. of Iowa State Tchrs. Col., Cedar Falls, Iowa, since 1886.

Seidel, John J., Towson High School, Towson, Md.

Selke, Erich, A. B., M. A., Univ. of Minn.; Dir. Tchr. Training, State Tchrs. Col., Mayville, N. Dak., since 1925.

Sellew, Edward B., B. A. '90, Williams; Supt. of Sch., Middletown, Conn., since 1917.

Selover, Jesse, Supvg. Prin., Sayreville, N. J.

Sentelle, R. E., A. B. '01, Wake Forest; Co. Supt. of Sch., Tarboro, N. C., since 1920.

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Serena, Joseph A., A. B. '04, LL. D. '22, Eureka Col.; Pres. S. E. Mo. State Tchrs. Col., Cape Girardeau, Mo., since 1921.

Sexson, John A., Pd. B. '05, Pd. M. '08, Colo. Normal Sch.; B. A. '12, Colo. State Tchrs. Col.; M. A. '18, Univ. of Denver; Supt. of Sch., Dist. No. 2, Cochise Co., Bisbee, Ariz., since 1924.

Sexton, Jay Wesley, A. B. '02, Albion Col.; M. A. '12, Univ. of Mich.; Supt. of Sch., City Hall, Lansing, Mich., since 1916.

Shackelford, B. G., A. M. '84, Central Col.; Asst. Supt. of Sch., 911 Locust St., St. Louis, Mo., since 1922.

Shafer, B. F., M. A. '23, Univ. of Chicago; Supt. of Sch., H. S. Bldg., Jacksonville, Ill., since 1922.

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Shaffer, Roscoe D., A. B. '24, Ball Tchrs. Col.; Supt. of Sch., Dunkirk, Ind., since 1921.

Shaffer, Roy Lee, Ph. B. '09, Dickinson; A. M. '17, Columbia; Prin., State Normal Sch., Paterson, N. J.

Shankland, Sherwood D., A. B. '94, West. Res. Univ.; A. M. '18, Columbia Univ.; Ex. Secy., Dept. of Supt., N. E. A., 1201 Sixteenth St., N. W., Washington, D. C., since 1922.

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Sharpe, E. Alma, A. B. '13, Univ. of Mich.; Co. Supt. of Sch., Court House, Howell, Mich., since 1920.

Sharrard, Kate, B. S. '14, M. A. '22, Tchrs. Col., Columbia Univ.; Grd. Supvr. Pub. Sch., Central Sch. Bldg., York, Pa., since 1922.

Shaw, J. O., B. S. '22, Univ. of Mo.; Supt. of Sch., 605 N. 10th St., Frederick, Okla., since 1914.

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Shawkey, M. P., Pres., Marshall Col., Huntington, W. Va.

Sheehan, Thomas W., Asst. Supt. of Sch., Nashua, N. H.

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Sheffield, John P., B. S. '21, Kans. State Tchrs. Col.; Supt. of Sch., Cherryvale, Kans., since 1924.

Shelburne, L. F., M. A. '14, Univ. of Va.; Supt. of Sch., Staunton, Va., since 1925.

Shelton, Frank M., B. S. '99, Mt. Union Col.; M. A. '11, Columbia Univ.; Supt. of Sch., 1401 N. Limestone St., Springfield, Ohio, since 1924.

Shelton, Will C., A. B. '20, Oklahoma; Supt. of Sch., Madill, Okla., since 1924.

Shepard, James E., Ph. G. '94, Shaw Univ.; D. D. '12, Muskingum; A. M. '13, Selma Univ.; Prin. State Normal Sch., Durham, N. C., since 1910.

Shepherd, Fred S., A. B. '84, Beloit Col.; Ph. D. '97, Univ. of Penna.; Supt. of Sch., Hobart Trust Bldg., Passaic, N. J., since 1914.

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Sheridan, Bernard M., A. B. '87, A. M. '03, Boston Col.; Supt. of Sch., Lawrence, Mass., since 1904.

Sherrard, R. M., A. B. '91, A. M. '94, Wash. and Jeff. Col.; Pd. D. '25, Duquesne Univ.; Asso. Supt., 732 Fulton Bldg., Pittsburgh, Pa., since 1912.

Shibley, Arleigh P., B. P. '11, State Tchrs. Col., Kirksville; Supt. of Sch., Wilson Bldg., El Centro, Calif., since 1920.

Shiels, Albert, A. B. '86, Col. of the City of N. Y.; Pd. M. '96, N. Y. Univ.; A. M. '99, N. Y. Univ.; L. H. D. '11, Muhlenberg Col.; Prof. of Ed., Teachers Col., Columbia Univ., N. Y., since 1922.

Shigetaka, Abe, Asso. Prof. of Sch. Admin., Tokio Imperial Univ., Tokio, Japan, since 1918.

Shilling, John, Ph. B. '08, A. M. '10, Dickinson; Asst. State Supt., Dover, Del., since 1919.

Shinn, Anna Lois, Supt. of Sch., River Forest, Ill.

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Shirley, William F., B. A. '07, Wabash Col.; M. A. '21, Columbia Univ.; Supt. of Sch., Marshalltown, Iowa, since 1920.

Shively, Charles A., A. M. '05, Univ. of Kans.; Prof. of Ed., 421 W. Juniata St., Hays, Kans., since 1905.

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Short, E. B., Co. Supt. of Sch., Salem, Ark.

Shotwell, Fred C., Ph. B. '16, Lafayette Col.; A. M. '21, T. C., Columbia Univ.; Supvg. Prin., 1 Sch. Plaza, Franklin, N. J., since 1923.

Showalter, Noah David, B. A. '08, M. A. '09, Wash. State Col.; Pres. State Normal Sch., Cheney, Wash., since 1910.

Shuck, Albert C., A. B. '11, A. M. '12, Dickinson Col.; Supt. of Sch., 91 East Main St., Freehold, N. J.

Shull, S. E., A. M. '03, Lafayette; Supt. of Sch., 184 Kearny Ave., Perth Amboy, N. J., since 1895.

Shuman, Eva B., B. S. '05, Fremont Col.; A. B. '22, Peru; Co. Supt. of Sch., Co. Court House, Fairbury, Nebr., since 1920.

Shuman, W. L., A. B. '21, Ohio State Univ.; Supt. of Sch., Mayfield Heights, Ohio, since 1922.

Shumway, C. W., B. Ph. '88, Cornell Col.; Supt. of Sch., 1112 Columbia St., Vancouver, Wash., since 1895.

Sickles, Frederick James, A. B. '08, Syracuse Univ.; A. M. '18, T. C., Columbia Univ.; Supt. of Sch., Roosevelt Jr. H. S., New Brunswick, N. J., since 1923.

Siders, Walter R., B. S. '91, Fremont Col.; Supt. of Sch., Pocatello, Idaho, since 1899.

Siepert, Albert F., B. S. '13, T. C., Columbia Univ.; A. M. '24, Univ. of Chicago; Hd. Dept. of Ed., Bradley Polytech. Inst., 500 Bradley Ave., Peoria, Ill., since 1913.

Sifert, E. R., A. B. '13, Des Moines Univ.; Supt. of Sch., Central Bldg., Webster City, Ia., since 1921.

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Simley, Irvin T., A. B. '11, Luther Col.; Supt. Sch., Thief River Falls, Minn., since 1921.

Simms, Willard E., Supt. of Sch., New Richmond, Ohio.

Simon, H. B., Supt. of Sch., Norfolk, Nebr.

Simpson, Alfred Dexter, A. B. '13, Syracuse; M. A. '23, Yale; Dir. Res. and Surv., State Dept. of Ed., Rm. 76, Capitol, Hartford, Conn., since 1923.

Simpson, I. Jewell, A. B. '99, West. Md. Col.; A. M. '24, Columbia Univ.; Asst. State Supt. of Sch., Preston Apts., Baltimore, Md., since 1925.

Simpson, O. P., Co. Supt. of Sch., Taylorville, Ill.

Sims, G. M., B. A. '04, Baylor Univ.; Supt. of Sch., Webster Bldg., Port Arthur, Tex., since 1914.

Singleton, Gordon G., B. S. '19, Univ. of Ga.; M. A. '24, Ph. D. '25, Tchrs. Col., Columbia Univ.; Dir., Div. Statistics and Information, State Dept. of Ed., Atlanta, Ga., since 1925.

Sipple, E. M., B. P. '07, Mo. State Norm.; B. S. '14, Univ. of Mo.; M. A. '24, T. C., Columbia Univ.; Headmaster, Park Sch., Baltimore, Md., since 1925.

Sirmons, John C., Ph. B. '12, Emory Univ., Supt. of Sch., Tifton, Ga., since 1923.

Sisemore, W. A., B. A. '25, La. State Tchrs. Col.; Asst. High Sch. Inspector, State Dept. of Ed., Baton Rouge, La., since 1923.

Skelton, William F., B. S. '22, Boston Univ.; Supt. of Sch., Pittsburg, N. H., since 1922.

Skidmore, Charles H., M. A. '01, B. Y. Col.; Supt. of Sch., Brigham City, Utah.

Skinner, Avery W., A. B. '92, Syracuse Univ.; Dir. Exam. and Insp. Div., N. Y. State Dept. of Ed., Albany, N. Y., since 1919.

Skinner, B. O., Supt. of Sch., 505 Third St., Marietta, Ohio.

Skinner, John J., S. B. '06, Upper Iowa Univ.; Supt. of Sch., Owatonna, Minn., since 1912.

Skinner, S. J., A. B. '15, A. M. '16, Univ. of Mich.; Supt. of Sch., Belding, Mich., since 1918.

Slade, A. A., A. B. '11, State Univ. of Ia.; Supt. of Sch., 416 C. Y. Ave., Casper, Wyo., since 1920.

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Slothower, Harry W., B. S. '15, Albright; Prin. H. S., Mt. Union, Pa., since 1921.

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Smith, C. A., B. S. '21, Univ. of Utah, Supt. of Sch. Dist. 19, Afton, Wyo., since 1921.

Smith, C. C., A. B. '12, Lebanon Valley Col.; A. M. '19, Columbia Univ.; Supt. of Sch., Mt. Union, Pa., since 1921.

Smith, Carleton Blose, A. B. '19, Oskaloosa, Ia., Col.; Supt. of Sch., 807 S. 9th St., Pekin, Ill., since 1923.

Smith, Charles C., Diploma, '05, Normal School, Florence, Ala.; Co. Supt. of Sch., Chatom, Ala., since 1917.

Smith, E. W., A. B. '25, Wayne State Tchrs. Col.; Supt. of Sch., Box 397, Hooper, Nebr., since 1923.

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Smith, Ferdinand E., A. B. '87, A. M. '90, Hamilton Col.; Supt. of Sch., 15 Lincoln St., Cortland, N. Y., since 1896.

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Smith, Guy D., Supt. of Sch., Stillwater, Minn.

Smith, Harold W., A. B. '16, East Texas Normal Col.; Supt. Grammar Sch., P. O. Box 157, Glendale, Ariz., since 1925.

Smith, Harry Pearse, A. B. '09, A. M. '15, Univ. of Iowa; Ph. D. '25, Columbia Univ.; Supt. of Sch., and Prof. of Ed., Univ. of Kans., Lawrence, Kans., since 1920.

Smith, Henry E., B. P. '20, Univ. of Wis.; Supt. of Sch., 618 Madison St., Oconto, Wis., since 1920.

Smith, H. H., A. B. '14-'15, Wabash Col.; Prin. of Twp. H. S., Savanna, Ill., since 1920.

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Smith, Jesse L., Supt. of Sch., 141 S. 2nd St., Highland Park, Ill., since 1902.

Smith, John L., B. S. '08, R. I. State Col.; A. M. '15, Brown Univ.; Supt. of Sch., Saylesville, R. I., since 1917.

Smith, Leon O., B. A. '10, M. A. '18, Univ. of Iowa; Asst. Supt. of Sch., City Hall, Omaha, Nebr., since 1919.

Smith, Lewis Wilbur, A. B. '02, Denison Univ.; A. M. '13, Ph. D. '19, Univ. of Chicago; Supt. H. S. and Jr. Col., 801 Buell Ave., Joliet, Ill., since 1919.

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Smith, Preston H., Ph. B. '93, Colgate; Supt. of Sch., 93 W. 34th St., Bayonne, N. J., since 1917.

Smith, R. K., Supt. of Sch., Dawson, Pa.

Smith, R. O., A. B. '16, Maryville Col.; Supt. of Sch., 118 Depot St., Maryville, Tenn., since 1923.

Smith, Raymond A., A. B. '00, A. M. '04, Butler Col.; B. D. '05, Yale; Dir. Sch. of Ed., Tex. Christian Univ., Box 78, T. C. Univ., Fort Worth, Tex., since 1920.

Smith, Robert C., A. B. '05, A. M. '13, Univ. of Mich.; Supt. of Sch., Macomb, Ill., since 1923.

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Smith, William Alexander, A. B. '90, Williams; A. M. '12, Columbia; Supt. of Sch., 348 Passaic St., Hackensack, N. J., since 1923.

Smith, William F., A. B. '06, Ind. Univ.; Supt. of Sch., Central Sch. Bldg., Elwood, Ind., since 1923.

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Snipes, W. D. F., A. B. '91, P. S. N. C. Miss.; Co. Supt. of Sch., Box 63, Tampa, Fla., since 1925.

Snow, William Brockett, A. B. '85, Boston Univ.; Asst. Supt. of Sch., 15 Beacon St., Boston, Mass., since 1921.

Snyder, Lewis N., A. B. '16, Gettysburg Col.; A. M. '24, Univ. of Penna.; Supvg. Prin. of Sch., 608 Centre St., East Mauch Chunk, Pa., since 1924.

Snyder, R. H., A. B. '12, Ind. Univ.; M. A. '19, Univ. of Chicago; Supt. of Sch., Box 497, Idaho Falls, Idaho, since 1919.

Solomon, R. W., Ph. B. '14, Univ. of Chicago; Supt. of Sch., 2201 Linden Ave., Middletown, Ohio, since 1917.

Somers, Florence A., Diploma, '08, Sargent Sch. of Physical Ed.; B. S. E. '23, Boston Univ., Sch. of Ed.; Asst. State Supvr. of Physical Ed., 212 State House, Boston, Mass., since 1924.

Sorensen, R. R., B. S. '15, Carleton Col.; Supt. of Sch., Tracy High School, Tracy, Minn., since 1921.

Souers, R. E., M. A. '13, Univ. of Chicago; B. A. '11, Miami Univ.; Supt. of Sch., 1132 12th St., Douglas, Ariz., since 1916.

Spain, Chas. L., A. B. '93, M. A. '20, Ph. D. '23, Univ. of Mich.; Dept. Supt. of Sch., 1354 Broadway, Detroit, Mich., since 1914.

Spaulding, C. E., Supt. of Sch., Plymouth, Ind.

Spaulding, Frank E., A. B. '89, LL. D. '20, Amherst; A. M., Ph. D. '94, Leipsig; A. M., Hon. '20, Yale; Prof. of Ed., and Dean, Sch. of Ed., Yale Univ., 68 Cold Spring St., New Haven, Conn., since 1920.

Speer, Owen D., A. B. '16, Univ. of Montana; Supt. of Sch., Deer Lodge, Mont., since 1914.

Speer, Robert K., Tchrs. Col., Columbia Univ., New York, N. Y.

Speerbrecher, Henry, 767 Mineral St., Milwaukee, Wis.

Spencer, Dean S., M. A. '12, Univ. of Mich.; Supt. of Sch., Monroe, Mich., since 1918.

Spencer, P. R., M. A. '21, Columbia; B. A. '15, Univ. of Wis.; Supt. of Sch., Superior, Wis.

Spencer, Thomas E., Asst. Supt. of Sch., 911 Locust St., St. Louis, Mo.

Spiess, G. A., Prin. Wheatland Union High Sch., Wheatland, Calif.

Spitler, H. Carl, B. S. '17, N. W., Naperville, Ill.; Supt. of Sch., 615 Michigan St., Petoskey, Mich., since 1923.

Sporing, E. F., A. B. '20, Wilmington Col., Ohio; Supt. of Sch., Newport, Ky., since 1919.

Sprenkle, William H., B. S. '98, M. S. '01, Gettysburg; Supvg. Prin., 112 Birmingham Ave., Pittsburgh, Pa., since 1909.

Springer, A. R., Co. Supt. of Sch., Florence, Ala.

Srygley, Hubbard F., B. S. '16, Peabody Col.; Supt. of Sch., 118½ W. Martin St., Raleigh, N. C., since 1923.

Stacy, Chester R., Supt. of Sch., Webster, Mass., since 1921.

Stahl, H. E., Supt. of Sch., Claymont, Del.

Staley, A. H., Supt. of Sch., 1131 N. Denver Ave., Hastings, Nebr.

Staley, George R., B. S. '00, Syracuse Univ.; Supt. of Sch., 106 N. George St., Rome, N. Y., since 1912.

Staley, Raymond E., A. B. '12, St. John's Col.; A. M. '24, T. C., Columbia Univ.; Supvg. Prin. of Berkley Schools, 201 E. 40th St., Norfolk, Va.

Stanforth, A. T., Ph. B. '11, Lebanon Univ.; B. S. '14, Muskingum Univ.; Supt. of Sch., Point Pleasant H. S., Point Pleasant, W. Va., since 1920.

Stanton, B. F., Supt. of Sch., Alliance, Ohio.

Stanton, Mrs. Marion W., Supt. of Sch., 8 Woodland St., Worcester, Mass., since 1922.

Staples, Leon C., A. B. '03, Colby Col.; Supt. of Sch., Suffield, Conn., since 1924.

Staples, Le Roy G., A. B. '00, Bates Col.; Supt. of Sch., City Hall, Warren, R. I., since 1910.

Stark, William E., A. B. '95, A. M. '01, Harvard; Supt. of Sch., 35 Seaside Ave., Stamford, Conn., since 1923.

Starkweather, J. A., A. B. '01, Shurtleff Col.; A. M. '16, T. C., Columbia Univ.; Asst. Supt. of Sch., 226 N. First Ave., E. Duluth, Minn., since 1919.

Stayman, Joseph W., Ph. B. '94, A. M. '97, Dickinson Col.; Pres. Potomac State Sch., Keyser, W. Va., since 1912.

Stebbins, W. C., Supt. of Sch., Grand Forks, N. D.

Steeger, W. H., Supvg. Prin. of Sch., 25 Washington Pl., Garfield, N. J.

Steele, Harold, B. S. '02, Albion Col.; M. A. '08, Univ. of Wis.; Supt. of Sch., 700 Court St., Saginaw, Mich., since 1920.

Steiner, Melvin A., B. A. '09, Col. of Wooster, M. A. '13, Univ. of Pittsburgh; Supvg. Prin. of Sch., Ingram, Pittsburgh, Pa., since 1918.

Stephan, Leon B., A. B. '08, A. M. '13, Ind. Univ.; Supt. of Sch., Jenkins, Ky., since 1921.

Stephens, Amos Mack, A. B. '12, Mercer Univ.; Supt. of Sch., Box 7, Toccoa, Ga., since 1924.

Stephens, W. L., Supt. of Sch., Long Beach, Calif.

Stern, Bessie C., A. B. '09, Cornell Univ.; M. Ed. '21, Harvard Univ.; Statistician, Md. State Dept. of Ed., 2014 Lexington Bldg., Baltimore, Md., since 1921.

Stetson, Paul C., A. B. '07, Kalamazoo Col.; A. B. '07, A. M. '17, Univ. of Chicago; Supt. of Sch., 308 Ludlow Bldg., Dayton, Ohio, since 1921.

Stevens, James M., B. A. '87, M. A. '90, Conn. Wesleyan Univ.; Supt. of Sch., 619 Wesley Ave., Ocean City, N. J., since 1903.

Stevenson, Fred G., Prin., H. S., Saginaw, Mich.

Stewart, David H., B. S. '15, Pa. State Col.; A. M. '25, Columbia Univ.; Supvg. Prin., McIntosh Bldg., Beaver, Pa., since 1923.

Stewart, Mrs. Ema, Prin., Woodrow Wilson Sch., Houston, Tex.

Stewart, Paul E., L. I. '03, Peabody Col.; A. B. '11, Stanford Univ.; Supt. of Sch., Santa Barbara, Calif., since 1919.

Stiles, Chester D., Supt. of Sch., Westfield, Mass.

Stilwell, H. W., Supt. of Sch., 1911 Olive St., Texarkana, Texas.

Stilwell, W. E., A. B. '01, A. M. '03, Harvard; Hdmst. Univ. Sch., Blair and Hartford Aves., Cincinnati, Ohio, since 1903.

Stimson, Rufus W., A. B. '95, A. M. '96, Harvard; B. D. '97, Yale; State Supvr. Voc. Agr. Ed., Hotel Wadsworth, 10 Kenmore St., Boston, Mass., since 1911.

Stitt, Edward Walmsley, M. Sc. '97, Col. of City of N. Y.; Ph. D. '24, Univ. of N. Y. City; LL. D. '22, Dickinson Col.; Asso. Supt. of Sch., 1543 St. Nicholas Ave., New York, N. Y., since 1923.

Stockinger, W. A., Diploma '04, Ind. State Normal; B. S. '16, M. A. '17, Columbia Univ.; Supt. of Sch., Noblesville, Ind., since 1920.

Stoddard, A. J., B. S. '22, Univ. of Nebr.; M. A. '24, T. C., Columbia Univ.; Supt. of Sch., Bronxville, N. Y., since 1922.

Stone, Charles R., A. B. '07, Oberlin; Supt. of Sch., Munhall, Penna., since 1915.

Stone, Charles T., B. A. '96, Bowdoin; Supt. of Sch., 90 Washington St., Long Branch, N. J., since 1921.

Stone, Elton E., A. B. '16, Univ. of Nebr.; A. M. '24, T. C. Columbia Univ.; Prin. Senior High Sch., 227 Bushkill St., Easton, Pa., since 1924.

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Stout, H. G., A. B. '14, Nebr. Wes., A. M. '25, Univ. of Nebr.; Supt. of Sch., Ashland, Nebr., since 1924.

Stover, James D., A. M. '13, Princeton Univ.; Supt. of Sch., Wyoming, Ohio, since 1921.

Stowe, A. Monroe, A. M. '04, N. W. Univ.; A. M. '05, Harvard Univ.; Ph. D. '09, Columbia Univ.; Pres., Univ. of Toledo, 1718 Potomac Drive, Toledo, Ohio, since 1914.

Strahan, Charles J., Dep. Asst. Com. of Ed., State Office Bldg., Trenton, N. J., since 1922.

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Strayer, George D., A. B. '03, Johns Hopkins; Ph. D. '05, Columbia Univ.; LL. D. '25, Col. of William and Mary; Prof. of Ed. Adm., Tchrs. Col., Columbia Univ., New York, N. Y.

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Stutsman, Isaac E., A. B. '09, State Univ. of Ia.; Supt. of Sch., 212 Taylor St., Sterling, Colo., since 1924.

Stutzman, G. C., B. A. '17, Knox Col.; M. A. '23, Univ. of Ia.; Supt. of Sch., Hanover, Ill., since 1923.

Sullivan, Ella C., Dist. Supt. of Sch., Edgewater Beach Hotel, Chicago, Ill., since 1900.

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Sutton, W. S., Dean Sch. of Ed., Prof. of Ed. Admin., Univ. of Tex., Austin, Tex.

Sutton, Willis A., Ph. B. '03, B. LL. '04, Emory Col.; Supt. of Sch., City Hall, Atlanta, Ga.

Swain, C. C., M. A. '18, Columbia Univ.; Pres. State Tchrs. Col., Mayville, N. D., since 1923.

Swank, George L., A. B. '04, Harvard Univ.; A. M. '17, Susquehanna Univ.; Co. Supt. of Sch., Sunbury, Pa., since 1921.

Swanson, Oscar E., A. M. '12, Columbia; Diploma '12, Tchrs. Col.; B. S. '11, North-Western; B. S. '01, Valparaiso; Supt. of Sch., 620 Second St., Greenport, N. Y., since 1920.

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Tabler, Daniel C., A. M. '17, Ohio Univ.; Supt. of Sch., 119 Beatty Ave., Mannington, W. Va., since 1920.

Tall, Lida Lee, Prin. Md. State Normal Sch., Towson, Md.

Tallman, Pearle, A. B. '20, Iowa State Tchrs. Col.; Supv. of Intermediate Gr., 609 Great So. Life Bldg., Houston, Tex., since 1923.

Tanger, Landis, M. Pd. '03, State Normal Sch., Millersville; Ph. B. '05, Franklin & Marshall Col.; A. M. '13, Univ of Pa.; Supt. of Sch., Reading, Pa., since 1922.

Tate, A. R., B. A. '20, Mich. State Normal Sch.; Grandville, Mich.

Taubeneck, I. D., B. E. '21, Ill. State Normal Univ.; Supt. of Sch., Minier, Ill., since 1920.

Taylor, E. B., A. B. '12, A. M. '13, Univ. of Rochester; Supt. of Sch., 2 Trigon Park, Le Roy, N. Y., since 1917.

Taylor, H. M., B. A. '13, Univ. of Iowa; M. A. '15, Des Moines Univ.; Supt. of Sch., 309 Scott Court, Shenandoah, Iowa, since 1924.

Taylor, James F., A. B. '09, A. M. '13, Ind. Univ.; Prin. Denfeld H. S., 708 N. 19th Ave., E., Duluth, Minn., since 1918.

Taylor, L. N., State Rural Sch. Agent, State Dept. of Ed., Frankfort, Ky.

Taylor, M. S., A. M. '12, Pacific Univ.; Supt. of Sch., North Bend, Ore., since 1923.

Taylor, Roy E., B. S. '21, Tchrs. Col., Pittsburg, Kans.; Supt. of Sch., Herculaneum, Mo., since 1924.

Taylor, William S., B. S. '12, Univ. of Ky.; M. S. '13, Univ. of Wis.; Ph. D. '24, Columbia Univ.; Dean Col. of Ed. Univ. of Ky., Lexington, Ky., since 1923.

Teach, Charles Elden, A. B. '03, A. M. '14, Univ. of Nebr.; Supt. of Sch., City Hall, Bakersfield, Calif., since 1918.

Teague, C. H., Supt. of Sch., Gladstone, Mich.

Temple, Alice, Ph. B. '08, Univ. of Chicago; Assoc. Prof., Sch. of Ed., Univ. of Chicago, Chicago, Ill., since 1909.

Terhune, Beekman R., A. B. '01, Princeton; A. M. '02, Columbia; Supt. of Sch., Somerset Sch., N. Plainfield, N. J., since 1923.

Terry, Katherine, Franklin School, Port Arthur, Texas.

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Tew, Derwood J., A. B. '06, Colgate Univ.; Genl. Supvr. Elem. and Jr. High School, Haddon and Newton Aves., Camden, N. J., since 1918.

Thalman, J. L., A. B. '00, Ohio Wes.; A. M. '10, Univ. of Mich.; Supt. Proviso H. S., Maywood, Ill.

Thalman, John W., A. B. '00, Ohio Wesleyan Univ.; Supt. of Secondary Sch., Waukegan, Ill.

Thames, W. I., A. B. '87, National Normal Univ.; Supt. of Sch., Hattiesburg, Miss., since 1922.

Theisen, W. W., B. S. '07, Univ. of Nebr.; A. M. '15, Ph. D. '16, Columbia Univ.; Asst. Supt. of Sch., Milwaukee, Wis.

Thierstein, John R., A. B. '96, Univ. of Kans.; Ph. D. '10, Univ. of Berne; Prof. of Ed., Bethel Col., Newton, Kans., since 1921.

Thomas, A. D., A. B. '05, Lafayette; M. A. '18, Tchrs. Col., Columbia Univ.; Supt. of Sch., 585 James St., Hazleton, Pa., since 1922.

Thomas, Augustus O., State Com. of Ed., State House, Augusta, Maine.

Thomas, H. W., A. B. '15, Univ. of Rochester; Supt. of Sch., Johnson, Vt., since 1921.

Thomas, J. Q., B. S. '09, Ohio Northern Univ.; Ph. B. '20, Chicago Univ.; A. M. '21, Stanford Univ.; Supt. of Sch., 519 W. Cherry St., Flagstaff, Ariz., since 1921.

Thomas, Lewis Ambrey, B. A. '21, Univ. of Idaho; Supt. of Sch., Box 77, Malad City, Idaho, since 1924.

Thomas, Malcolm G., A. B. '98, A. M. '02, Union; Supvg. Prin. of Sch., Woodbury H. S., Woodbury, N. J., since 1914.

Thomasson, Horace G., A. B. '03, Ouachita Col.; Co. Supt. of Sch., Magazine, Ark., since 1920.

Thompson, Alfred C., B. A. '92, Yale; Ph. D. '13, N. Y. State Col. for Tchrs.; Prin. State Normal Sch., Brockport, N. Y., since 1910.

Thompson, Clem O., A. B. '13, Ind. State Normal; A. M. '20, Univ. of Chicago; Assoc. Prof. of Ed., Ball Tchrs. Col., State Normal Sch., Muncie, Ind.

Thompson, E. M., A. B. '12, Nebr. Wesleyan Univ.; Supt. Sch., Rock Springs, Wyo., since 1925.

Thompson, G. E., A. B. '15, Defiance Col.; Supt. of Sch., St. Charles, Ill., since 1919.

Thompson, J. B., Supt. of Sch., Milo, Maine.

Thompson, R. E., Supt. of Sch., 102 N. High, Tuscumbia, Ala.

Thompson, W. O., A. B. '78, Muskingum Col.; Pres. Ohio State Univ., Columbus, Ohio, since 1899.

Thomson, Willis, A. B. '18, Univ. of Minn., Supt. of Sch., Woodstock, Ill., since 1923.

Thoroman, A. M., Supt. of Sch., Iola, Kans.

Thorp, Clay, Co. Supt. of Sch., Carrollton, Ky., since 1918.

Threlkeld, A. L, B. Pd. '11, Kirksville State Normal; B. S. '19, Univ. of Mo., A. M. '23, Tchrs. Col., Columbia Univ.; Deputy Supt. of Sch., Administration Bldg., Denver, Colo.

Thurman, Wesley B., Supt. of Sch., Buhl, Minn.

Tibbetts, Keim K., A. B. '10, Oberlin; Supt. of Sch., Box P, Gilbert, Minn., since 1918.

Tidball, Lewis C., A. B. '05, Univ. of Wyo., M. A. '18, Univ. of Wash.; State Com. of Ed., Cheyenne, Wyo., since 1921.

Tidwell, R. E., State Dept. of Ed., Montgomery, Ala.

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Tillman, F. P., A. B. '13, B. S. '16, Univ. of Mo.; Supt. of Sch., 118 W. Washington Ave., Kirkwood, Mo., since 1924.

Timberman, J. C., B. S. '02, Ohio Northern; Ph. B. '06, Ohio Univ.; Supt. of Sch., 422 E. Broadway, Wellston, Ohio, since 1922.

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Tiss, A. I., A. B. '10, Drake Univ.; M. A. '19, State Univ. of Iowa; Supt. of Sch., Fort Madison, Iowa, since 1920.

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Titus, Carl, Supt. of Sch., Cheboygan, Mich.

Toaz, Robert K., A. B. '93, Rochester; A. M. '12, Tchrs. Col., Columbia; Supt. of Sch., H. S. Bldg., Huntington, N. Y., since 1906.

Tobey, S. B., Supt. of Sch., Wausau, Wis., since 1905.

Tolman, J. A., Ph. D. '11, Univ. of Chicago; Dean Dept. of Ed., Georgetown Col., Georgetown, Ky., since 1923.

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Torvend, C. S., B. A. '10, M. A. '17, Univ. of North Dakota; Supt. of Sch., 215 N. Dak. St., Canton, S. Dak., since 1924.

Tower, Willis E., B. S. '94, M. S. '08, Univ. of Ill.; Dist. Supt. in charge of Sr. H. S., 460 S. State St., Chicago, Ill., since 1925.

Towne, R. H., Supt. of Sch., Fairmont, Minn.

Townsend, M. Ernest, B. A. '12, M. A. '22, Colgate Univ.; Supt. of Sch., Memorial H. S. Bldg., Millville, N. J., since 1923.

Trabue, M. R., B. A. '11, N. W. Univ.; M. A. '14, Ph. D. '15, Columbia Univ.; Prof. of Ed. Admin., Univ. of N. C., P. O. Box 431, Chapel Hill, N. C., since 1922.

Tracy, Aaron W., A. B. '19, Brigham Young Univ.; Pres. Weber Col., 2445 Jefferson Ave., Ogden, Utah, since 1922.

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Travell, Ira Winthrop, B. A. '90, Williams; Supt. of Sch., Ridgewood, N. J., since 1912.

Travis, Martin B., B. Pd. '06, Mich. Normal Col.; A. B. '09, A. M. '10, Univ. of Mich.; Supt. of Sch., 221 E. B. St., Iron Mountain, Mich., since 1917.

Trenholm, H. Councill, A. B. '20, Morehouse Col.; Ph. B. in Ed. '21, A. M. '25, Univ. of Chicago; Acting Pres., State Normal Sch., Box 755, Montgomery, Ala., since 1925.

Trent, William Woodson, A. B. '12, W. Va. Univ.; A. M. '21, Tchrs. Col., Columbia; Supt. of Sch., Elkins, W. Va., since 1915.

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Trester, Arthur L., A. B. '04, Earlham Col.; A. M. '13, Columbia Univ.; Sec. Ind. H. S. Athletic Assn., Anderson, Ind., since 1922.

Trinder, F. J., State Dir. Voc. Ed., Capitol, Hartford, Conn.

True, J. A., A. B. '18, Univ. of Nebr.; M. A. '22, Chicago Univ.; Supt. of Sch., McCook, Nebr., since 1918.

Trumper, May, State Supt. of Pub. Ins., Helena, Mont.

Tucker, James C., Supt. of Sch., Sour Lake, Texas.

Tuggle, Larkin A., Co. Supt. of Sch., Court House, Danville, Ill., since 1923.

Tupper, C. R., A. B. '13, A. M. '23, Stanford; Supt. of Sch., P. O. Box 1689, Miami, Ariz., since 1919.

Turner, H. B., A. B. '03, Hiram Col.; Supt. of Sch.; 307 Western Reserve Bank Bldg., Warren, Ohio, since 1916.

Turner, Horace F., A. B. '11, Bates; Supt. of Sch., Plymouth, Mass., since 1922.

Turner, J. W., A. B. '18, Phillips; Pres. S. W. State Tchrs. Col.; Weatherford, Okla., since 1923.

Twente, John W., A. M. '16, Univ. of Kans.; A. M. '22, Ph. D. '23, Columbia Univ.; Prof. of Ed., Univ. of Kans., 934 Indiana, Lawrence, Kans., since 1925.

Tyler, Leon Lewis, LL. B. '00, Univ. of Mich.; A. B. '06, Earlham Col.; Supt. of Sch., Muskegon Heights, Mich., since 1920.

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Underwood, C. C., Ph. B. '07, M. A. '10, Kenyon Col.; Supt. of Sch., 13 Mills Place, Crawfordsville, Ind., since 1923.

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Unger, Maurice L. H., A. B. '94, A. M. '99, Franklin and Marshall Col.; A. M. '18, Diploma '18, Columbia Univ.; Litt. D. '24, Western Md. Col.; Co. Supt. of Sch., Westminster, Md., since 1916.

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Valentine, Byron W., A. B. '01, Colgate Univ.; Hebrew and Greek Diploma '06, Hamilton Theol. Sem.; A. M. '15, Colgate Univ.; Head, Dept. of Ed., Otterbein Col., Westerville, Ohio, since 1922.

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Vasey, Frank T., A. B. '04, Univ. of Nebr.; A. M. '18, Univ. of Iowa; Supt. of Sch., Mason City, Iowa, since 1918.

Vaughan, James P., Ph. B. '07, Univ. of Wis.; Supt. of Sch., H. S., Chisholm, Minn., since 1907.

Vautsmier, Lydia, Supt. of Sch., Elmhurst, Ill.

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Vevle, Mendus R., B. A. '14, St. Olaf Col.; Supt. of Sch., H. S. Bldg., Hutchinson, Minn, since 1922.

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Vinsonhaler, C. I., A. B. '11, Highland Col.; Supt. of Sch., Garden City, Kans, since 1919.

Vizcarrondo, Francisco, LL. B. '17, Univ. of P. R.; Chief Div. of Supvsn., Sec. Dept. of Ed., San Juan, Porto Rico, since 1918.

Vliet, Clarence, Supt. of Sch., Birmingham, Mich.

Von Kleinsmid, Rufus B., A. B. '05, A. M. '06, Northwestern; Sc. D. '14, Univ. of Ariz.; J. D. '19, Nat. Univ. of Mex.; M. D. '20, Univ. Central Quinto, Ecuador; Ph. D., Univ. of Major, San Marcos, Peru; LL. D. '25, Northwestern; Pres. Univ. of Southern Calif., Los Angeles, Calif., since 1922.

Voorhees, J. V., Supt. of Sch., Eveleth, Minn.

Voss, Edwin F., B. S. '17, S. Dak. State Col.; Supt. of Sch., Clark, S. Dak., since 1923.

Waddell, John F., Ph. B. '20, Wis.; Supt. of Sch., 400 Clermont, Antigo, Wis., since 1922.

Wade, Edwin C., A. B. '07, Hampden-Sidney Col.; A. M. '11, Columbia Univ.; Supt. of Sch., H. S. Bldg., Bluefield, W. Va., since 1923.

Wagenvoord, Alice M., B. S. '16, M. A. '21, Columbia Univ.; Asst. Supt. of Sch., Lansing, Mich., since 1917.

Wager, Lewis M., Supt. of Sch., Lincoln Sch, North Tiverton, R. I., since 1919.

Wager, Warren William, A. B. '99, Tristate Col., Angola, Ind.; A. B. '00, A. M. '04, Hiram Col.; Prin., Roosevelt Jr. H. Sch., Columbus, Ohio, since 1916.

Wahlert, Herman H., B. S. '15, Wash. Squ. Col; M. A. '16, N. Y. Univ.; Asst. Supt. of Sch., Prin. Lincoln Sch., North Bergen, N. J.

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Waldo, D. B., Ph. B. '87, A. M. '90, Albion Col.; LL. D. '10, Kalamazoo Col.; Pres. Western State Normal Sch., Kalamazoo, Mich.

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Walker, Knox, A. B. '15, Mercer Univ.; Supt. of Sch., Carrollton, Ga., since 1922.

Wallace, H. E., A. B. '24, Lincoln Memorial Univ., Co. Supt. of Sch., P. O. Box 153, Morristown, Tenn., since 1924.

Wallace, S. C., Asst. Co. Supt. of Sch., 428 Oakland Ave., Greensburg, Pa., since 1915.

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Waller, J. C., A. B. '07, Georgetown Col.; A. B. '08, Univ. of Chicago; A. M. '14, Tchrs. Col., Columbia; Supt. of Sch., Hopkinsville, Ky., since 1918.

Walling, W. Levern, A. B. '14, Univ. of Mich.; A. B. '07, Mich. State Normal Col.; Supt. of Sch., 17453 Jefferson Ave., E. Grosse Pointe, Mich., since 1921.

Walls, William Alfred, A. B. '07, Mt. Union Col.; A. M. '13, Columbia Univ.; Supt. of Sch., 10 Green Terrace, Kent, Ohio, since 1920.

Walters, Rolland J. D., A. B. '04, Tri State Col.; A. M. '14, T. C., Columbia Univ.; D. Litt. '20, Univ. of Denver; Dir. Tchr. Tr. Univ. of Denver, 2045 So. Clarkson St., Denver, Colo., since 1924.

Walters, W. F., Co. Supt. of Sch., Court House, Columbia, N. C., since 1920.

Waltner, Caroline A., A. B. '16, Yankton Col.; B. S. '17, S. D. State Col.; Grad. Student. Tchrs. Col., Columbia Univ.; 200 Claremont Ave., New York, N. Y.

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Ward, David A., B. S. '04, Rio Grande Col.; A. M. '11, Univ. of Chicago; Supt. of Sch., City Hall, Wilmington, Del., since 1921.

Ward, L. C., A. B. '03, Ind. Univ.; Supt. of Sch., Montgomery and Clinton Sts., Fort Wayne, Ind., since 1920.

Ward, W. H., A. B. '14, Furman Univ.; Supt. of Sch., High Sch., Walterboro, S. Car., since 1924.

Ward, W. Scott, A. B. '83, Tufts; Supt. of Sch., 73 Green St., Athol, Mass., since 1897.

Wardlaw, Patterson, A. B. '80, LL. D. '06, Erskine; Litt. D. '24, Presby. Col. of S. C.; Dean Sch. of Ed., Univ. of S. C., 1214 College St., Columbia, S. C., since 1894.

Warner, W. W., Diploma '84, Valparaiso Univ.; Diploma '01, Drexel Inst.; Supt. of Sch., Saginaw, East Side, Mich., since 1917.

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Warren, Milton Charles, Co. Supt. of Sch., Circleville, Ohio.

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Watkin, Earl P., Ph. B. '12, Ph. M. '17, Hamilton Col.; Supt. of Sch., Ilion H. S., Ilion, N. Y., since 1923.

Watkins, Richard Henry, B. A. '95, Hampden-Sidney; Supt. of Sch., Laurel, Miss., since 1907.

Watson, F. B., Diploma '97, William and Mary Col.; Div. Supt. of Pittsylvania Co. Sch., Box 128, Chatham, Va., since 1921.

Watson, Frank K., A. M. '99, Princeton; Supt. of Sch., 20 West St., Danbury, Conn., since 1920.

Watson, L. D., Jr., A. B. '97, Georgia; Pres. Gordon Institute, Barnesville, Ga., since 1922.

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Weaver, Olney S., B. S. '21, Miami Univ.; Supt. of Sch., Germantown, Ohio, since 1921.

Webb, F. E., B. A. '11, Bellevue Col.; Supt. of Sch., Box 2349, Globe, Ariz., since 1923.

Webb, J. O., B. A. '14, Southwestern Univ.; M. A. '24, Univ. of Texas; Supt. of Sch., Harrisburg, Texas, since 1924.

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Weber, H. C., M. A., Math. Science '82, Univ. of the South; Supt. of Sch., Nashville, Tenn., since 1918.

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Weed, Clarence M., D. Sc. '91, Ohio State Univ.; M. Sc. '84, B. Sc. '83, Mich. Agri. Col.; Prin. State Normal Sch., Lowell, Mass., since 1921.

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Weglein, David E., Ph. D. '16, A. B. '97, Johns Hopkins Univ.; A. M. '12, Columbia Univ.; Supt. of Sch., Baltimore, Md., since 1925.

Weldon, O. K., B. S. '17, Birmingham-Southern Col.; Co. Supt. of Sch., Rockford, Ala., since 1922.

Welles, James B., A. B. '09, Union Col.; A. M. '13, Columbia Univ.; Supt. of Sch., Roslyn, N. Y., since 1920.

Wellman, Florence M., Supt. of Sch., Brattleboro, Vt., since 1908.

Wells, Agnes Ermina, A. B. '03, Ph. D. '24, Univ. of Mich.; A. M. '16, Carleton Col.; Dean of Women, Ind. Univ., Bloomington, Ind., since 1918.

Wells, Guy H., A. B. '15, Mercer Univ.; Supt. of Sch., Eastman, Ga., since 1921. Address, Peabody Col., Nashville, Tenn.

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Whaley, Guy V., A. B. '12, Leland Stanford Jr. Univ.; M. A. '14, Univ. of Calif.; Supt. of Sch., Pomona, Calif., since 1919.

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Wheeler, Frederic A., A. B. '93, Univ. of Vt.; Supt. of Sch., East Longmeadow, Mass., since 1919.

Wheeler, George, B. S. '05, Temple Univ.; Asso. Supt. of Sch., 110 E. Gorgas Lane, Philadelphia, Pa., since 1906.

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Wheelock, Arthur N., A. M. '81, Univ. of Vermont; Supt. of Sch., Box 569, Riverside, Calif., since 1907.

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Whitney, A. S., A. B. '85, Univ. of Mich.; LL. D. '21, Univ. of Syracuse; Dean Sch. of Ed., 930 Church St., Ann Arbor, Mich., since 1921.

Whitney, Eddy R., A. B. '89, M. S. '93, Hamilton Col.; Supt of Sch., 106 Glenwood Blvd., Schenectady, N. Y., since 1918.

Whitney, Fairfield, A. M. '92, Bates Col.; Supt. of Sch., 548 Broadway, Everett, Mass., since 1910.

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Wight, Ambrose B., A. B. '95, M. A. '14, Alma; B. Pd. '19, I. S. N. U.; Asst. Supt. Sch., 460 So. State St., Chicago, Ill., since 1919.

Wilber, H. Z., A. B. '08, Mich. State Normal Col.; A. B. '10, A. M. '11, Univ. of Mich.; Prof. of Ed., State Normal Col., Ypsilanti, Mich., since 1921.

Wilbur, G. Elmer, Diploma '00, State Normal Sch., Bloomsburg, Pa.; A. B. '04, Dickinson Col.; Co. Supt. of Sch., Jacksonville, Fla., since 1925.

Wilcox, George M., A. B. '11, Cornell Col.; A. M. '18, State Univ. of Iowa; Dir. of Ed., Near East Relief, Athens, Greece, since 1924.

Wilde, Arthur Herbert, Ph. D. '01, Harvard; Dean Sch. of Ed., Boston Univ., 125 Fair Oaks Park, Needham, Mass., since 1918.

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Wiley, J. Burton, A. B. '05, Lafayette Col.; Supt. of Sch., Morristown, N. J., since 1912.

Wiley, J. F., Supt. of Sch., Elkhart, Ind.

Wilkinson, Garnet Crummel, A. B. '02, Oberlin Col.; LL. B. '09, Howard Univ.; First Asst. Supt. of Schs., Washington, D. C., since 1924.

Wilkinson, Thomas G., Supt of Sch., Eufaula, Ala.

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Willard, W. A. L., B. S. '23, Mich. Agr. Col.; Supt of Sch., 35 Tolan St., Milan, Mich., since 1923.

Williams, D. S., Supt. of Sch., Bozeman, Mont.

Williams, Guy F., M. A. '10, Yale Univ.; Supt. of Sch., Ashland, N. H., since 1925.

Williams, R. C., Ph. B. '14, Central Col.; Supt. of Sch., Jesup, Iowa, since 1921.

Williams, R. M., Supt of Sch., Driver, Va., since 1921.

Williams, Thomas C., B. S. '15, Va. Mil. Inst.; Co. Supt. of Sch., Box 132, Chester, Va., since 1921.

Williams, W. C., B. A. '96, Supt. of Sch., High Sch., Greenwood, Miss., since 1923.

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Willis, W. Spader, A. B. '86, Rutger's Univ.; Prin. of State Normal Sch., 217 Belleville Ave., Newark, N. J., since 1911.

Willman, Edward J., A. B. '18, A. M. '24, Univ. of Mich.; Supt. of Sch., 919 N. Wash. St., Owosso, Mich., since 1921.

Willsey, Elsie Mae, Ph. B. '13, Univ. of Chicago; Gen. Supt. of Home Economics, Dept. of Ed., San Juan, Porto Rico, since 1919.

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Wilson, Harry G., American Book Company, 330 East 22d St., Chicago, Ill., since 1893.

Wilson, James H., A. B. '13, Sterling Col.; Supt of Sch., Rocky Ford, Colo., since 1924.

Wilson, John R., B. S. '13, Columbia; Supt. of Sch., Paterson, N. J.; since 1906.

Wilson, Lucy L. W., Ph. D. '97, Univ. of Pa.; Prin. So. Phila. H. S., Philadelphia, Pa., since 1916.

Wilson, Melvin, B. S. '14, M. S. '24, Univ. of Utah; Supt. of Nebo Sch. Dist., Spanish Fork, Utah, since 1924.

Wilson, Otis G., A. B. '07, A. M. '11, W. Va. Univ.; Supt. of Sch., Fairmont, W. Va., since 1915.

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Womack, J. P., B. A. '03, Univ. of Ark.; M. A. '18, Geo. Peabody Col.; Supt. of Sch., 610 W. Matthews, Jonesboro, Ark., since 1917.

Wood, H. A., A. B. '23, Mich. State Normal Col.; Supt. of Sch., Munising, Mich., since 1925.

Wood, Oscar S., A. B. '20, Mich. Univ.; Supt. of Sch., Aberdeen, S. Dak., since 1923.

Wood, R. F., B. S. in Ed. '21, State Tchrs. Col., Warrensburg, Mo.; A. M. Sec. Ed. '25, Peabody Tchrs. Col.; Prin. Senior H. S., Bessemer, Ala., since 1923.

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Wood, Will C., A. M. '19, Univ. of So. Calif.; State Supt. of Pub. Instr., Mull Bldg., Sacramento, Calif., since 1919.

Woodruff, Caroline S., Prin. State Normal Tr. Sch., Castleton, Vt., since 1920.

Woods, Elizabeth L., A. M. '10, Univ. of Ore.; Ph. D. '13, Clark Univ.; Dir. of Special Ed., State Dept. of Pub. Instr., Madison, Wis., since 1917.

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Woodward, D. C., Jr., Certificate in Supervision, '19, Univ. of Utah; Dist. Supt. of Sch., Price, Utah, since 1919.

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Wright, Arthur Davis, A. B., A. M. '04, Col. of Wm. & Mary; Ed. M. '22, Harvard; Hd. Dept. of Ed., Dartmouth Col. Hanover, N. H., since 1921.

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Wyman, Elwood T., B. A. '90, Colby; Supt. of Sch., Warwick, R. I., since 1921; P. O. Apponaug, R. I.

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Yeomans, C. A., A. B. '06, Col. of Emporia; M. A. '14, Kansas Univ.; Supt. of Sch., Lyons, Kans., since 1924.

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